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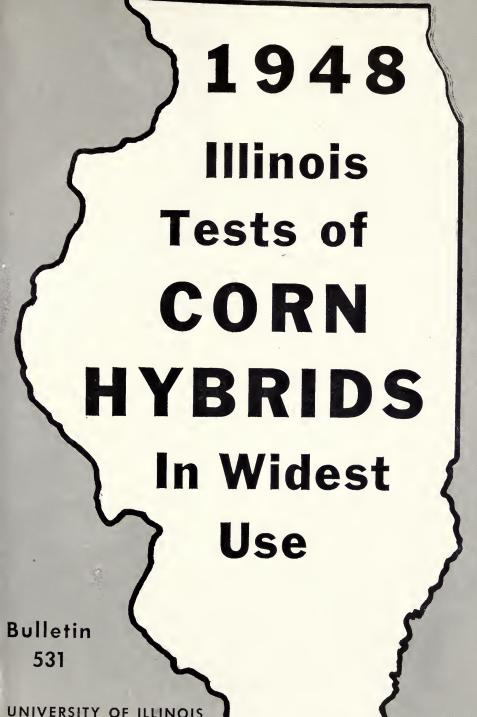
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AGRICULTURAL EXPERIMENT STATION in cooperation with ILLINOIS STATE NATURAL HISTORY SURVEY . . . February, 1949

GALESBURG SHELDON •

URBANA
SULLIVAN

ALHAMBRA

DIXON SPRINGS

Location of 1948 test fields

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Urbana, Illinois

February, 1949

ILLINOIS TESTS OF CORN HYBRIDS IN WIDEST USE IN 1948

J. W. Pendleton, G. H. Dungan, J. H. Bigger, A. L. Lang, Benjamin Koehler, R. W. Jugenheimer, and G. E. McKibben¹

N ALL-TIME RECORD was set in Illinois in 1948 both for total yield of corn and yield per acre. The total yield of 550 million bushels exceeded the 1946 record high by 44 million bushels. The average yield per acre was 61 bushels.² Illinois now shares the national record that Iowa set in 1946.

PLAN OF THE TESTS

Number of hybrids and their sources. Two hundred eighty-nine hybrids were grown on five regular test fields. Six single-cross and three double-cross hybrids were grown on two special test fields which differed in productivity. Fifty-seven companies and individuals and the Illinois Station furnished seed for the tests (see pages 88-89).

Eighty-one hybrids were grown on each of the fields except at the Dixon Springs Experiment Station, where 60 entries were planted on the bottomland field and 11 entries on the upland field (Table 1, page 60).

A representative of the Illinois Station took almost all the seed for planting the test fields directly from the warehouses of the producers entering the corn. A few producers delivered small quantities to the Station. Seed of Illinois and U. S. hybrids in commercial production was obtained from the producers of these hybrids and also from the Illinois Crop Improvement Association.

Selection of entries. Each year seed corn producers are given an opportunity to nominate hybrids for testing on the various fields. For some fields the number of hybrids nominated is so great that they can-

² Estimates for the average yield for the state were furnished by the Illinois Cooperative Crop Reporting Service, Illinois State Department of Agriculture cooperating with the U. S.

Department of Agriculture.

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Table 1.—GENERAL INFORMATION: Illinois Cooperative Hybrid Corn Tests, 1948

Field, county, location, and	Date	Date	Average acre-yield		Mois- ture	Erect	Protein	Oil	
number of entries	planted	harvested	Total	Sound	- in grain	plants			
			bu.	bu.	perct.	perct.	perct.	perct.	
DeKalb: DeKalb N 81	May 20	Oct. 28	68.0	67.0	29.3	99	9.9	4.7	
Galesburg: Knox WNC 81	May 14	Oct. 21	111.4	108.5	23.9	71	11.0	5.0	
Sheldon: Iroquois ENC 81	May 22	Oct. 19	105.4	102.9	25.2	96	10.8	4.8	
Sullivan: Moultrie SC 81 Dixon Springs: Pope Ex.S	May 21	Nov. 9, 12	107.2	105.6	19.3	77	10.1	4.8	
Bottomland 60	May 26	Nov. 4	65.2	64.7	25.3	98	8.9	4.7	
Upland 11	May 26	Nov. 5	50.7	49.2	24.1	• 90	10.2	4.5	

COOPERATORS: Earl and Webste'r Gehring, Knox county; John B. Rice, Iroquois county; R. B. Vandeveer, Farm Manager, Illinois Masonic Home Farm, Moultrie county. The DeKalb field in DeKalb county is managed by the Illinois Station; Francis Hart is overseer. The Pope county fields at Robbs are parts of the Dixon Springs Experiment Station of which R. J. Webb is superintendent. (Because of crop failure on the Alhambra field, no 1948 data are available.)

not all be tested. For instance, 149 hybrids were nominated this year for testing on the Galesburg field. This situation poses the problem of selecting entries.

The "lattice-square" design that was used in laying out the entries on each field limits to 81 the number of entries that can be included. Of these, six in 1948 were Station-produced, open-pedigree hybrids that serve as standards, or checks, with which to compare the performance of the other entries. The remaining 75 entries were chosen, for the most part, because the seed is being produced in large quantities. A few hybrids, however, were tested to see if their field performance met the requirements for certification.

To widen the number of entries tested, a new plan was tried in 1948. Some of the hybrids that had ranked high for the three previous years — 1945, 1946, and 1947 — were omitted. These top-ranking hybrids are given an honor position in the present report as "proven hybrids."

Soil characteristics of fields. The test fields were medium to high in productivity, and each represents a soil type common to the region where it is located. Each field was selected carefully for uniformity in soil type, productivity, and drainage.

In 1948 the northern Illinois test was moved to DeKalb county. The other tests were conducted on the same farms as in 1947. The approximate locations of the test fields are shown on the map on the inside front cover. General information on soil characteristics and soil management is given in Table 2.

Table 2. — TESTING FIELDS: Soil Characteristics and Management Practices

Soil type	Lime require- ment	Available phosphorus	Available potassium	Previous crops and soil management
		NORTHE	RN: DeKall)
Harpster clay loam	tons	High	Medium	Soybeans 1945; corn 1946; oats and mixed clovers 1947; lime has been applied.
	WES	T NORTH-C	ENTRAL: C	Galesburg
Muscatine silt loam	. 3	Medium	Very high	Corn 1943-1944; oats-rape hog pasture 1945; corn 1946; oats-rape hog pasture 1947; lime and rock phosphate have been applied.
	EAS	ST NORTH-C	ENTRAL:	Sheldon
Drummer clay loam	. 0	Medium	High	Corn 1943-1944; oats 1945; timothy-alfalfa- alsike clover hog pasture 1946-1947; 2½ tons lime applied 1943; manure 1947- 1948; 125 lbs. 3-18-9 applied at planting.
		SOUTH-CEN	TRAL: Sull	ivan
Flanagan silt loam	. 1	Slight	High	Alfalfa 1941-1943; corn 1944; alfalfa-timo- thy pasture 1945-1946; corn 1947; 2 tons lime applied 1946.
		SOUTHER	N: Alhambi	ra
Putnam silt loam	. 0	High	High	Wheat 1941; corn 1942; oats 1943; soy- beans 1944; wheat 1945; red clover 1946; 500 lbs. potash broadcast in 1947 before planting.
E	XTREM:	E SOUTHER	N: Robbs (l	Dixon Springs)
Upland field: Ava silt loam	.Trace	Low	Medium	Wheat and red clover 1947; previously was timothy-sweet clover sod for 15 years.
Bottomland field: Bonnie silt loam	. 1	Very low	Very high	Corn 1944; soybeans 1945; corn 1946-1947; manured 1948.

The soil-type designations, uniformity, and physical characteristics of the above fields have been approved by Herman Wascher, Assistant Professor of Soil Survey Research.

Field-plot design. A 9×9 randomized, lattice-square field-plot design with 5 replications was used on the DeKalb, Galesburg, Sheldon, and Sullivan fields. Controlled, randomized block designs with 6 replications were used on the Dixon Springs bottomland and upland fields.

Method of planting. All test fields were planted by hand on land prepared in the regular way for corn. Each plot consisted of 2 rows 10 hills long, except at DeKalb where the plots were only 9 hills long. Three kernels were dropped in each hill except on the fields at Dixon Springs, where only 2 kernels were planted.

Data from all plots were included in the results. The only correction for imperfect stand was the following adjustment for missing hills:

Ear weight in field
$$\times \left(1 + \frac{\text{missing hills}}{\text{hills present}} \times .6\right) =$$
 adjusted ear weight.

GROWING CONDITIONS

The 1948 growing season was, in general, an excellent one for corn in Illinois. The cool, wet spring weather let up early in May, allowing early planting. A well-distributed rainfall, bright sunny days, and no excessively high temperatures combined to give corn near optimum growing conditions thruout the summer.

All test fields, except the upland plot at Dixon Springs, were planted in excellent seedbeds. The compactness of the soil on the upland field and destruction of the seedlings by crows resulted in a poor stand there. Germination was good on all fields but Sheldon, where a dry period following planting reduced the stand. The corn planted at Alhambra on May 27 was seriously damaged by the black cutworm, *Agrotis ypsilon* (Ropt.). The field was double-disked and replanted on June 18. A combination of wet weather while the corn was young and the poor drainage characteristics of this field resulted in a crop failure. The 1947 results and three-year summary are therefore again presented for this area.

In August there were scattered hail storms in the west north-central area. The Galesburg field was not struck, but high winds accompanying the storm caused considerable lodging. Sullivan was the only other plot where lodging was of importance.

Warm, sunny days in the fall allowed the crop to mature before the first general state-wide frost occurred on October 18.

INSECT PESTS

European corn borer. During 1948 none of the test fields were located in areas where losses due to the European corn borer, *Pyrausta nubilalis* (Hbn.) were important. Neither stalk breakage nor ear-dropping because of borers was extensive enough anywhere to bring out any differences in these hybrids to attack by this insect.

Corn rootworms. Corn rootworms, especially the southern corn rootworm, *Diabrotica duodecipunctata* (F.), were active in all test fields. But weather caused lodging after rootworm attack on only two fields — Galesburg and Sullivan.

On the Galesburg field a midsummer windstorm caused particularly severe lodging. Here, of the plants leaning 30 degrees or more, the average lodging was 63.9 percent (a difference of less than 22.8 percent between any two entries is not significant) (Table 7).

A summary of the amount of lodging caused by rootworm in 13 hybrids tested in each of three years at Galesburg is given in Table 6. Tho differences of less than 20.7 percent between entries leaning 30 degrees or more are not significant, there are large enough differences in a number of instances to indicate that some hybrids are better able to withstand rootworm attack than others.

On the Sullivan field conditions were less severe. Average lodging of plants leaning 30 degrees or more was 26.7 percent; for those leaning 45 degrees or more, it was 3.8 percent (Table 11). But the damage on this field was so spotted that the differences among the hybrids cannot be said to have any significance.

DISEASE DAMAGE1

Stalk rot diseases. In the latter part of August scattered plants died from stalk rot in many cornfields in a large part of the state. The percentage of diseased plants increased progressively until late fall. From October 12 to November 11, 39.7 percent of the stalks were observed to be infected with Diplodia zeae, 17.6 percent with Gibberella zeae, and smaller percentages with Fusarium moniliforme, Nigrospora oryzae, and Sclerotium bataticola. Specimens sent to the Station, together with complaints about lodging from McHenry, Whiteside, Warren, Pike, Jefferson, and White counties, indicated that all were caused by Gibberella. Thus this fungus caused considerable damage even if, on the average, it was not the most prevalent one. In a few fields lodging resulted from Diplodia, but on the whole the corn stood up remarkably well considering the widespread infections.

On the basis of studies made in 57 counties, the loss from all stalk rots was estimated at 4.3 percent.

¹ Estimates of losses are based in part on survey data obtained by G. H. Boewe, Assistant Plant Pathologist, Illinois State Natural History Survey.

Root rot. Seedling blight and root rot were of minor importance in 1948. Plants killed prematurely by stalk rots often had a decayed root system later in the season, but the decay was probably not caused by parasitic organisms.

Smut. Loss from smut again, as during the last few years, was low. It was estimated at only .4 percent.

Leaf diseases. A little Stewart's disease and Helminthosporium blight could be found in nearly every field in central and southern Illinois, but the damage, if any, was very slight.

Ear rots. Damage from ear rot was low except in some fields in north-central and northern Illinois that were killed by frost when immature. For instance, in a field in Boone county all the ears were reported rotted. This rot was caused primarily by a combination of Hormodendrum and Nigrospora. The corn on all test fields had become moderately mature before the first killing frost. Data on the causes of kernel damage are given in Table 3. Data on the percent of kernel damage in individual entries are given in the tables for the various fields. Rot damage was low because the fall weather was generally dry.

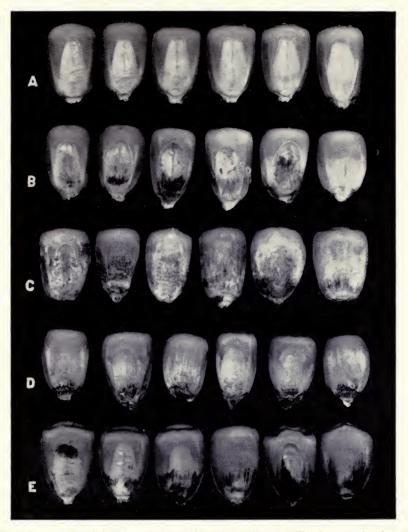
Diplodia, Nigrospora, and Gibberella rots were more prevalent than in 1947. Hormodendrum was much more prevalent than it had been for many years, causing not only commercial damage to market corn but also considerable damage in numerous seed-producing fields in the northern third of the state. Physalospora rot, which looks very much like

Table 3.—ROT DAMAGE CAUSED BY FUNGI: Average of All Entries in Five Test Fields, 1948

(Figures based on laboratory tests)

		Corn kernels damaged by rot									
Rank* Fungi causing damage	Fungi causing damage	DeKalb	2 77 11		C 111 -	Dixon Springs					
		Dekaib	Galesburg	Sheldon	Sullivan	Bottomland	Upland				
		perct.	perct.	perct.	perct.	perct.	perct.				
1	Diplodia zeae	11	.57	1.75	. 92	.01	.82				
2	Fusarium moniliforme	08	.96	.16	. 29	. 60	. 33				
3	Nigrospora oryzae	63	. 39	.07	.07	.02	,06				
4	Hormodendrum sp	28	.16	.18	.02	.02	.02				
5	Physalospora zeae	. 0	0	0	.03	0	. 66				
6	Gibberella zeae	18	.19	.13	.08	. 02	0				
7	Penicillium spp		. 19	. 02	.04	.01	0				
8	Miscellaneous	06	.06	.04	.01	.01	0				
	Total		2.52	2.35	1.46	. 69	1.89				

a Based on total damage.



Kernels in top row (A) are sound and free from disease. The kernels in the other rows show four diseases that were common in 1948: (B) Diplodia zeae; (C) Physalospora zeae; (D) Nigrospora oryzae; (E) Hormodendrum sp.

Diplodia rot in the earlier stages, has occurred sporadically in Illinois from time to time. This year it was very evident in the upland field at Dixon Springs.

MEASURING PERFORMANCE

The entries in the 1948 test are listed in the tables in the order of their *total* yields. Those having the same total yield and no damaged kernels are placed in order by percentage of erect plants.

Erect plants. The percentage of erect plants in each plot of each entry on each field was estimated at the time of harvest. The ratings for erect plants show how the percentage of erect plants for each hybrid compared with the percentage of erect plants on the field as a whole. (Each rating is obtained by dividing the percentage of erect plants for that hybrid by the percentage of erect plants on the field as a whole and multiplying by 100.)

Lodging may have been due to rootworm damage, weak or rotted roots, corn borer damage, stalk rots, or weak stalks. Stalks broken above the ear were not considered lodged.

Yield of grain. To determine shelling percentage, all the ears from one replicate of each entry were shelled. At Dixon Springs, however, because it was not practicable to shell all the ears in a replication, the shelling percentage of all entries was assumed to be 80 percent. A sample of shelled corn was taken from the Dixon Springs plots by hand-shelling 6 ears of each entry in one replication.

From the shelled corn one sample was taken to determine the percentage of moisture at harvest¹ and to determine the percentage of damaged kernels. The percentage of damaged corn was determined according to the federal grain standards.

The total acre-yield was calculated as shelled corn containing 15.5 percent moisture, the upper limit allowable in No. 2 corn. The total yield thus obtained for three fields (Sullivan, Galesburg, and Sheldon) was adjusted according to the procedure outlined by Cochran for randomized lattice-square designs.² The total yield of sound corn was computed by deducting the amount of damaged corn from the total yield.

Each hybrid's rating for sound yield, expressed in terms of percentage, is simply the ratio between the bushels of sound corn produced by the hybrid and the average number of bushels of sound corn produced by all the entries on the field.

Height of ear. Notes on comparative height of ear were taken at harvest time. Each plot of each entry was placed in one of the five following categories: low, mid-low (midway between low and medium), medium, mid-high (midway between medium and high), and high. Begin-

¹ All moisture determinations were made with a Steinlite moisture tester.

² Cochran, W. G. "Some Additional Lattice-Square Designs." Iowa Agr. Exp. Sta. Res. Bul. 318. May, 1943.

ning with *low* and continuing progressively to *high*, these terms were assigned numerical values from 1 to 5 to permit the averaging of the plots.

Oil and protein analysis. For the first time, a sample of each entry on each field was sent to the Northern Research Laboratory at Peoria for an analysis of the oil and the protein content of the grain.

Significance of yield differences. Too much confidence must not be placed in the particular ranking of a hybrid in the following tables, for chance has played a part in determining its position. Unaccountable variability in the soil and conditions on the field will cause differences in yield that are not inherent in the hybrids themselves.

The part played by chance in the 1948 tests has been calculated for total yield by the mathematical procedure known as "analysis of variance." In each table there is stated the approximate difference which there must be between any two entries in order for them to show a true inherent difference. Unless two hybrids differ by at least this amount, there is no assurance that one hybrid is inherently higher yielding than the other.

RESULTS OF TESTS

Detailed results of the tests on six regular test fields and the two special soil-adaptation fields are given in Tables 4 to 14 on the following pages. See also Table 3 on page 64 on ear-rot damage.

Readers are urged to keep in mind these two things when comparing the performance of hybrids on any one field:

- 1. Small differences in yield do not necessarily indicate the superiority of one hybrid over another. See each table for the amount one hybrid must exceed another before it can be considered the better.
- 2. The Summary section of each table is the most important part. At least three years' results are necessary to give a reasonably reliable picture of a hybrid's ability to perform under varying seasonal conditions.

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Table 4. - NORTHERN ILLINOIS: Kings, Woodstock, and DeKalb (Kings 1946, Woodstock 1947, DeKalb, 1948)

SUMMARY 1946-1948: Less than 5.1 bushels difference between total yields of any two entries is not significant.

		bu.	perct.	perct.	perct.	perct.	perct.		perct.	perct
1	Crow 407	70.5	3.1	28.2	90	99	105	M-high		
2	Illinois 751 (Station)	69.8	1.5	28.2	89	97	104	Medium		
3	Sieben S-340	69.2		32.2	91	100		M-high		
4	Ferris F-11	69.2		27.1	92	101		Medium		
5	Super Crost F-138	69.1	1.2	27.9	82	96	106	Medium		
6	Pride D-66	68.8		29.1	95	104		M-high		
7	Illinois 101 (Station)	68.5	. 7	27.5	93	102	103	Medium		
8	Illinois 1091A (Station)	68.4	2.7	31.1	90	98	102	Medium		
9	Super Crost F-140	68.2	1.1	28.3	93	102	103	Medium		
0	Furr 67A	68.2	1.3	27.7	91	100	105	Medium		
1	Ward 110	66.8	.9	28.3	96	105	100	Medium		
2	P.A.G. 52	66.5	1.2	24.4	95	105	100	Medium		
3	Moews 14	66.0		28.6	93	102		Medium		
4	DeKalb 615	65.9	2.5	29.0	91	100	99	Medium		
5	Crow 360	65.3		33.0	80	87		M-high		
6	DeKalb 404A	64.0	. 9	26.8	94	103	97	Medium		
7	Lowe 15	63.1		29.5	94	103		Medium		
8	Crow 514(W)	59.5		27.7	88	96		M-high		
	Average of all entries	67.1	1.6	28.6	92					

1948 RESULTS (DeKalb): Less than 8.6 bushels difference between total yields of any two entries is not significant.

1 2 3 4 5 6 7 7 9	Farmcraft PC-43	79.9 79.1 78.0 77.8 77.5 76.9 76.4 76.4 76.0 75.7	.2 1.3 1.0 1.0 1.3 .6 .7 .7 .7	29.7 28.3 25.6 25.6 26.7 30.0 29.5 30.7 26.9 26.3	96 100 100 100 99 97 100 100 99	97 101 101 101 100 98 101 101 99	119 116 115 115 114 114 113 113 112 111	Medium M-high Medium Medium M-high Medium Low High Medium Medium	8.8 10.5 9.5 9.5 9.7 9.6 9.1 9.1 9.8 9.7	4.4 5.3 4.8 4.8 4.7 3.9 4.1 4.3
11 11 13 13 15 16 17 18 19 20	Super Crost F-140. Illinois 1508 (Station) Pride D-66. Illinois 101 (Station). Sieben S-440E. Keystone 33. DeKalb 240. Pioneer 4040. P.A.G. 60. Super Crost FD-3A.	75.0 75.0 74.6 74.6 74.5 74.2 74.0 73.7 73.5 73.0	.6 2.9 .1 1.4 .4 .4 1.0 4.6 0	28.1 33.6 29.5 29.4 28.4 29.7 25.7 27.6 24.9 25.3	100 99 100 100 99 100 98 100 100 98	101 100 101 101 100 101 99 101 101	111 109 111 104 111 110 109 105 110	Medium Medium M-high Medium M-high Medium Medium Medium Medium M-high	10.1 8.7 9.7 9.9 10.6 9.6 9.1 9.1 9.3 10.7	4.8 4.7 4.3 5.0 5.2 4.6 4.8 4.2 4.8
21 23 24 25 26 26 28 28 30	Ponder 230. P.A.G. 2847. Bear OK-22 Moews 85C Crow 407. Ferris F-11. P.A.G. 299 Iowealth AF-11 Moews 14. P.A.G. 282.	72.5 72.5 72.3 72.0 71.7 71.4 71.1 71.1 71.1	.2 4.7 1.1 2.6 .8 4.8 .1 .4	27.7 23.3 30.9 25.3 28.9 28.0 27.7 31.4 28.0 26.6	99 96 98 100 99 100 100 100 99	99 97 99 101 100 101 101 101 100 101	108 108 103 106 104 106 102 106 106 105	Medium M-low Medium M-high M-high Medium M-high M-low Medium	9.1 10.0 9.4 9.8 9.7 10.0 9.8 9.6 9.6	5.2 4.6 4.4 5.2 5.0 4.8 4.6 4.6 4.6
31 32 33 34 34 36	Ward 100. Huebsch H-44. Furr 23. Pioneer 353A. Illinois 1091A (Station) Nichols 75.	70.6 70.5 70.3 70.1 70.1 69.9	.9 .2 .3 .3 .3 3.2 3.7	28.2 28.7 26.6 25.5 32.0 33.0	100 100 99 98 100 100	101 101 100 99 101 101	104 105 105 104 103 100	M-high M-high M-low Medium Medium M-high	9.5 10.8 10.2 10.6 9.4 8.9	5.1 5.2 4.8 4.6 4.5 4.8

(Table is concluded on next page)

Table 4. — NORTHERN ILLINOIS — concluded

		acre yield	corn in shelled sample	ture in grain at harvest	Erect plants	Erect	Sound	Height of ear	Protein	Oil	
	19	48 R				Erect Sound plants yield				Oil	
			ESULI	S: De	Kalb -	— con	cluded				
		bu.	perct.	perct.	perct.	perct.	perct.		perct.	perct	
18	Super Crost F-138	69.8	2.2	30.4	99	100	99	Medium	10.2	4.8	
	Frey 410	69.7	. 2	27.6	98	99	104	M-high	9.8	4.9	
	Super Crost F-145	69.3	.4	27.8	96	97	103	M-high	10.2	4.8	
:0	DeKalb 406	69.2	1.8	31.8	100	101	101	Medium	9.4	4.5	
1	Furr 66A	69.1	3.4	27.6	99	100	100	Medium	9.8	4.4	
12 13	DeKalb 615	68.1	. 1	29.2	97	98	102	Medium	9.4	4.4	
	P.A.G. 52 Sieben S-440	67.9 67.8	.6 1.6	$\frac{25.7}{27.8}$	100 99	101 100	101 100	M-low M-high	10.4	5.0 4.5	
	Crow 360	67.6	.1	31.3	97	98	100	M-high	$9.9 \\ 9.4$	4.5	
6	Munson MX	67.4	1.4	31.3	100	101	99	M-low	9.4	4.8	
	Illinois 1375 (Station)	67.2	1.7	31.1	98	99	98	Low	10.1	5.1	
	P.A.G. 56	67.1	1.3	23.7	98	99	99	Medium	10.4	5.2	
19	Producers 311	67.0	1.1	33.3	100	101	99	Medium	11.1	4.8	
50	Moews 85B	66.9	1.7	28.0	99	100	98	Medium	9.8	4.5	
51	Ward 110	66.5	. 0	27.8	100	101	99	Medium	10.5	4.9	
51	Ward 114	66.5	.4	34.2	99	100	99	M-low	9.3	4.2	
	DeKalb 404A	66.1	0	28.7	98	99	99	M-low	9.3	4.8	
	Illinois 1289 (Station)	65.3	1.5	30.8	99	100	96	Medium	10.4	4.9	
	Furr 67A Producers 315	$65.3 \\ 65.3$	$\frac{3.1}{3.4}$	$\frac{29.2}{28.0}$	98 98	99 99	94 94	M-low	9.6	4.6	
	Pioneer 343	64.7	.4	33.6	100	101	96	M-low Medium	$\frac{10.2}{9.6}$	4.9	
	Lowe 52	64.7	6.7^{-2}	30.9	100	101	90	Medium	9.2	4.8	
59	Pioneer 344	64.5	1.0	31.8	99	100	95	Medium	10.6	4.9	
60	Crow 514(W)	64.3	. 2	30.4	97	98	96	M-high	10.4	4.1	
51	Holmes Utility 9	64.2	.1	27.5	99	101	96	Medium	9.8	4.8	
51	Super Crost FD-3	64.2	1.0	28.7	100	101	95	M-high	9.9	4.5	
53	Funk G-16A	63.9	.9	30.5	100	101	95	Medium	10.6	4.7	
64	Super Crost F-150	62.9	. 4	34.4	99	100	93	M-high	11.0	4.6	
55 56	Producers 305	62.8 60.8	3.7^{1}	26.7	100	101	94	M-low	10.6	4.6	
57	Lowe 22 Super Crost FD-4	60.5	3.4	$\frac{37.2}{32.5}$	100 98	101 99	87 88	M-high M-low	$\frac{9.2}{10.2}$	4.3	
	National 114-1	60.2	.3	27.8	99	100	89	Medium	11.5	4.5	
	Moews 85A	60.0	.7	25.9	100	101	89	Medium	10.2	4.6	
	Doubet D-1E	59.5	.3	32.7	100	101	88	Medium	11.0	4.7	
1	Lowe MME	59.4	. 2	24.5	100	101	88	M-low	10.4	5.2	
11	United U-32A	59.4	.3	29.3	99	100	88	Medium	10.1	5.0	
13	Producers 320	59.3	2.8	33.0	98	99	86	Medium	10.5	4.9	
74	Lowe 15	59.2	.3	31.2	98	99	88	Medium	10.7	4.8	
	Lowe 32	58.5	.4	24.8	100	101	87	Medium	9.4	4.4	
	Pioneer 350A	58.4	0	30.4	100	101	87	Medium	9.6	4.6	
	Ponder 180 Hulting J-41	57.2 55.7	3.1_{2}	34.4	100	101	83 83	M-low	9.9	$\frac{5.0}{4.5}$	
	Super Crost 404(W)	55.6	$\frac{.2}{1.7}$	30.8 36.2	99 98	100 99	83 82	M-low M-high	$\frac{10.5}{10.6}$	4.5	
	Appl A-202	53.2	9.3	37.6	99	100	72	Medium	10.0	4.9	
	Lowe 24	49.7	.4	32.2	99	100	74	M-low	9.6	4.4	
	Average of all entries	68.0	1.4	29.3	99				9.9	4.7	

PROVEN HYBRIDS: Most of the following hybrids were not included in the 1948 DeKalb tests because they were top-ranking in the previous three years:

Furr 67A
Sieben S-450
Doubet D-1
Nichols 5A

DeKalb 609
Pioneer 340
Producers 315

Frey 42	25
Ferris	F-11
P.A.G.	366A

Table 5. — WEST NORTH-CENTRAL ILLINOIS: Galesburg

Rank Entry	Total acre yield	Damaged corn in shelled sample	Mois- ture in grain at harvest	Erect plants	Rating for— Erect Sound plants yield	Height of ear	Protein	Oil
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SUMMARY 1946-1948: Less than 4.2 bushels difference between total yields of any two entries is not significant.

		bu.	perct.	perct.	perct.	perct.	perct.		perct.	perct
1		106.2	2.0	21.8	75	99	110	M-high		
2	Schwenk S-24	105.0	1.3	22.6	77	102	110	M-high		
3	P.A.G. 170		1.9	20.9	76	100	108	M-high		
4	Ainsworth X-21	102.0	1.8	23.2	84	113	105	M-high		
5ª		100.5	1.7	23.8	80	103	105	High		
6	P.A.G. 392	99.5	.9	21.8	80	107	102	M-high		
7	Sieben S-440	99.1	1.0	20.6	75	101	103	Medium		
8	Morton M-12	97.6	1.5	22.7	78	105	101	Medium		
9	Funk G-37	95.9	1.8	21.8	77	102	99	M-high		
10	DeKalb 628A	95.2	1.2	23.0	73	97	99	M-high		
11	Crow 607	95.1	3.3	22.5	68	89	96	M-high		
12	Farmeraft FC-47	94.8	1.1	23.2	63	82	98	Medium		
13	Morton M-380	93.1	. 5	23.7	78	105	98	Medium		
14	DeKalb 816	92.8	1.2	24.0	80	106	97	High		
15	Lowe 520	88.6	1.0	22.3	83	113	90	M-high		
16	Ward 120A	86.3	1.4	24.8	73	95	92	High		
	Average of all entries	97.2	1.5	22.7	76					

1948 RESULTS: Less than 7.5 bushels difference between total yields of any two entries is not significant.

		J.0.00	01 4119				D-B			
1 2 3 4 ⁴ 5 6 7 8 9	P.A.G. 392 Illinois 1511 (Station) Iowealth AQ P.A.G. 390 Pioneer 313B Illinois 1515 (Station) Lowe 562 Pioneer 336 Frey 645 Schwenk S-24	. 126.1 . 124.5 . 121.9 . 121.6 . 121.5 . 121.1 . 120.9 . 120.4	1.4 6.1 4.2 3.6 4.2 .6 7.8 4.8 1.5 2.1	22.7 23.5 22.4 22.3 27.4 23.9 22.2 21.9 24.6 24.9	77 60 72 67 71 75 80 69 68 74	108 84 101 94 100 106 113 97 96 104	115 109 110 108 107 111 103 106 109 108	High High M-high M-high M-high M-high M-high High High High	11.1 10.9 11.4 11.8 10.8 11.2 10.8 11.8 11.6	4.8 5.0 5.1 4.9 5.1 5.0 5.2 5.2 4.7
11 12 12 14 14 16 17 18 ⁴ 19 20	Ainsworth X-21 Super Crost F-169. Stewart S-11 Ainsworth X-13-3. Farmcraft PC-67. Illinois 1416 (Station). DeKalb 817A. Producers 900. Illinois 21 (Station). U. S. 13 (Lepper)	. 118.9 . 118.9 . 118.5 . 118.5 . 118.4 . 117.0 . 116.6 . 116.4	3.7 2.2 3.0 2.3 1.3 4.7 2.8 3.6 3.5 3.8	23.9 23.7 22.3 22.6 23.8 24.5 24.6 23.8 25.2	71 72 68 77 68 69 72 78 77	100 101 96 108 96 97 101 110 108 108	106 107 106 107 108 104 105 104 103 103	M-high M-high High Medium Medium M-high M-high M-high High	11.5 11.2 11.2 11.1 11.0 11.6 11.2 10.6 10.6	4.9 5.2 5.0 5.0 4.9 5.3 5.4 5.1 5.0 4.9
20 22 23 24 24 26 27 28 29 30	Ainsworth X-201 Lowe 514 Doubet D-11 Super Crost 746 Producers 940 Kelly K-77 Funk G-77 Sieben S-340 P-A.G. 282 Bear OK-33	. 115.6 . 115.5 . 114.9 . 114.9 . 114.8 . 114.7 . 114.1	1.8 2.6 1.2 2.7 5.8 6.5 1.9 .3 2.1	25.5 23.1 23.0 24.8 21.9 23.2 22.8 23.2 22.2 24.6	79 77 69 72 71 69 71 77 70	111 108 97 101 100 97 100 108 99	105 104 105 103 100 99 104 105 103 103	High High M-high M-high High M-high M-high M-high M-high M-high Medium M-high	11.6 10.6 11.1 10.6 11.4 11.0 10.6 10.8 10.7	5.1 4.7 5.3 4.8 4.9 4.8 5.2 4.5 5.2
30 32 32 34 35 36 37 38 38	Wards 118 Bear OK-31 Stiegelmeier S-201 Sieben S-440 Super Crost FD-7 Kelly K-99 National 125-1 Frey 692 Lowe 523 Hulting 380	. 113.5 . 113.5 . 113.4 . 113.2 . 112.4 . 112.2 . 111.7	5.2 .6 1.0 1.2 1.9 .3 .1 3.1 3.0	22.4 23.4 25.1 21.1 21.1 24.6 22.8 25.1 23.8 23.0	71 85 71 68 69 77 78 66 73 54	100 120 100 96 97 108 110 93 103 76	99 104 104 103 102 103 103 100 100	High M-high M-high M-high M-high High M-high M-high M-high M-high M-high	11.2 11.4 10.5 11.6 11.2 10.3 11.5 10.8 10.4	4.9 5.3 5.2 5.2 5.0 5.0 5.3 4.8 5.0 4.8

(Table is concluded on next page)

Table 5. — WEST NORTH-CENTRAL ILLINOIS — concluded

		Total	Damaged corn in	Mois- ture in	Erect	Ratin	g for—	Height				
Rai	nk Entry	acre yield	shelled sample	grain at harvest	plants	Erect plants	Sound yield	of ear	Protein	Oil		
	1948 RESULTS — concluded											
		bu.	perct.	perct.	perct.	perct.	perct.		perct.	perct.		
41	Ward 116	111.2	4.7	22.8	74	104	98	Medium	10.8	4.8		
42	Kelly K-44 Producers 510		$\frac{3.0}{2.4}$	$\frac{25.4}{22.8}$	76 64	107 90	99 100	M-high Medium	10.6 11.2	5.0		
44	Doubet D-3(W)		2.1	23.2	72	101	100	M-high	10.6	4.7		
44	P.A.G. 170	110.7	. 3	24.2	66	93	102	M-high	10.6	4.6		
444	Illinois 1332 (Tiemann)	110.7	4.1	23.2	73	103	98	M-high	11.0	5.1		
47 48	Morton M-12		2.5	22.4	70	98	99	M-high	11.6	5.1		
49	DeKalb 642 Sieben S-450		. 6 . 7	$\frac{23.4}{22.6}$	61 76	85 107	101 100	M-high Medium	11.5 11.3	4.9 5.1		
50	DeKalb 628A		.4	24.0	65	92	101	M-high	11.1	4.7		
50 50	Funk G-37 Producers 730	109.9	3.2	22.6 25.7	77 68	108 96	98 101	High M-high	$\frac{11.7}{11.4}$	5.2		
53	Bear OK-32		1.7	24.5	72	101	99	M-high	11.4	4.8		
54	Super Crost 840		3.4	26.4	74	104	98	High	10.3	5.1		
55	U. S. 13 (Morton)	109.2	.8	25.5	74	104	100	High	10.8	4.8		
56	Frey 425		2.2	24.0	69	97	98	Medium	11.1	5.0		
56 58	Hulting J-60 Hulting 101		3.9	$\frac{23.1}{23.5}$	71 71	100 100	96 100	Medium M-high	$\frac{11.6}{10.7}$	$\frac{5.0}{5.0}$		
59	United U-41	108.1	2.8	24.5	77	108	97	Medium	11.2	5.5		
60	Illinois 1289 (Station)	108.0	3.0	24.3	69	97	96	Medium	11.1	5.1		
61	Pioneer 335	107.8	1.1	22.8	70	99	98	Medium	11.0	5.0		
62	Munson M-15		3.8	24.3	72	101	95	M-high	11.1	4.9		
63	Illinois 972-1 (Pringle)	107.1	1.3	26.6	70	99	97	High	10.5	4.7		
63	Pioneer 300		2.3	27.4	66	93	96	High	10.7	4.8		
65 66	United U-47Illinois 972A-1 (Station)	106.7	2.8 3.6	26.3 23.7	74 68	104 96	96 94	M-high	11.1	4.7		
67	Keystone 38		2.3	24.6	70	90	96	M-high High	$\frac{10.9}{11.4}$	$\frac{4.7}{5.0}$		
68	Crow 607		7.0	21.0	68	96	91	M-high	11.7	4.5		
69	Frey 644A	105.4	1.1	23.9	65	92	96	M-high	10.6	5.0		
70	Huey H-42E	105.3	2.0	22.2	78	110	95	Medium	11.8	5.1		
71	Farmcraft FC-47	105.1	1.5	25.5	58	82	95	Medium	11.0	4.7		
72	Furr 67		2.7	24.9	69	97	94	Medium	10.9	5.2		
73 74	Super Crost 668A Lowe 520		.6	25.5	72 80	101 113	95 93	M-high	10.0	4.7		
75	Lowe 520		$\frac{1.6}{2.3}$	$\frac{22.7}{25.4}$	67	113 94	93	M-high M-high	$\frac{11.3}{12.2}$	4.8 5.2		
76	Illinois 972-1 (Appl)	99.6	3.9	24.5	71	100	88	High	10.6	4.8		
77	DeKalb 816	99.5	1.3	27.2	75	106	90	High	10.8	4.7		
77	Lowe 24	99.5	5.4	24.2	67	94	87	Medium	10.7	4.9		
79 80	Moews 85	$96.9 \\ 93.4$	2.4	$\frac{19.0}{26.4}$	70 66	99 93	87 86	Medium Medium	$\frac{11.7}{10.9}$	4.9 5.0		
81	Wards 120A	73.8	1.8	28.5	83	117	67	High	10.9	4.7		
	Average of all entries		2.6	23.9	71				11.0	5.0		
			2.0	40.7					11.0	0.0		

 $^{^{\}rm a}$ This entry was average of U. S. 13 (Lepper) and U. S. 13 (Morton) for 1947 and 1948. $^{\rm 4}$ Four plots were included in the average yield instead of five.

PROVEN HYBRIDS: Most of the following hybrids were not included in the 1948 Galesburg tests because they were top-ranking in the previous three years:

Pioneer 339
Pioneer 304
Doubet D-72
Kelly K-374

Holmes Utility 39 P.A.G. 5897 Crow 633 Holmes Utility 29 DeKalb 847 Morton M-12

Table 6.—HYBRID RESISTANCE TO CORN ROOTWORM* DAMAGE:
Galesburg Summary, 1943, 1947, and 1948

Rank	Entry	Plants leaning 30 degrees or more	Plants leaning more than 45 degrees	Resistance rating com- pared with average
		perct.	perct.	
1	Lowe 520	. 14.1	1.6	313
2	Funk G-37	. 16.4	3.7	189
3	DeKalb 816	. 23.0	2.8	157
	U. S. 13		4.4	136
5	DeKalb 817A	. 27.2	17.3	130
6	Illinois 21	. 27.5	5.0	120
7	Producers 940	. 33.9	4.3	106
8	National 125-1	. 33.5	5.3	102
9	DeKalb 628A	. 38.5	8.3	82
10	Crow 607	. 40.7	7.9	80
11	Farmcraft FC-47	. 42.9	10.8	70
12	Producers 730	. 44.7	12.7	64
13	Illinois 972-1 (Pringle)	. 47.6	12.6	62
	Average of all entries	. 32.2	6.4	100

In Column 3 (plants leaning 30 degrees or more) a difference of less than 20.7 percent between any two entries is not significant.

^{*} Diabrotica duodecimpunctata (F.).

Galesburg, West North-Central Illinois, 1948

Table 7. — HYBRID RESISTANCE TO CORN ROOTWORM* DAMAGE:

	\
Resistance rating com- pared with average ^b	87888888888888888888888888888888888888
Plants leaning more than 45 degrees	20.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Plants leaning 30 degrees or more	26.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7
ık Entry	Funk G-77 Kelly K-77 Kelly K-77 National 125-1 National M-15 Producers 510 Producers 510 Producers 940 Producers 940 Producers 940 Producers 940 Doubet D-11 Illinois 1332 (Tiemann) Hulting 1-60 Nard 118 Producers 940 Nard 118 Producers 330 Nard 118 Producers 330 Nard 118 Producers 335 Producers 336 Prev 644.5 Narian 18-1 New 18-2 Producers 330 Prev 644.5 New 18-2 Producers 330 Prev 644.5 New 18-2 Producers 330 Prev 644.5 New 18-2 Producers 330 Prev 64.7 New 18-2 Producers 330 Prev 64.7 New 18-2 Producers 330 Prev 64.7 New 18-2 Prev 42.5 Prev 42.7 Prev 42.5 Prev 42.7 Prev 42.5 Pre
Rank	$\begin{array}{c} 4444444448888888888888888888888888888$
Resistance rating com- pared with average ^b	2348 2348 2348 2348 2348 2348 234 234 235 237 237 238 238 238 238 238 238 238 238 238 238
Plants leaning more than 45 degrees	2
Plants leaning 30 degrees or more	28 28 28 28 28 28 28 28 28 28 28 28 28 2
Entry	Eunk G.37 Lowe 320. P.G. 302 P.G. 302 Pioner 313B Pioner 313B Pioner 313B Pioner 314B United U7 United U7 U. S. 13 (Morton) Huey H-2E Lowe 514 Exprayance 38 Sichen S. 24 Exprayance 38 Sichen S. 30 Sincer Crost F-169 Mocws 85. Sincer Crost F-169 Mocws 85. Sincer Crost F-169 Prof. 300 Illinois 21 (Station) Doubet D3(W) Profutners 306 Pobekalb 816 Pobekalb 817 Profutners 900 Poubet D3(W) Profutners 900 Poubet U-41 Anisworth X13 United U-41 Dokkalb 817 Pokalb 817 Poward 116 Super Crost 466 Super Crost 466 P6. 282 Beat OK-32
	See

In Column 3 a difference of less than 22.8 points between any two entries is not significant.

* Especially southern corn rootworm, Diabrolica duodecimpunciata (F). b High rating indicates better standing ability.

Table 8. — EAST NORTH-CENTRAL ILLINOIS: Sheldon, 1948

Rank	Entry	Total acre yield		Mois- ture in grain at harvest	Erect plants	Erect	g for— Sound yield	Height of ear	Protein	Oil
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SUMMARY 1946-1948: Less than 4.8 bushels difference between total yields of any two entries is not significant.

		bu.	perct.	perct.	perct.	perct.	perct.		perct.	perct
1	Keystone 38 1	01.6	1.3	24.7	93	103	109	High		
2	Bear OK-88T 1	.00.3	. 6	27.6	89	98	109	M-high		
3	U. S. 13 (Station) 1	0.00	. 7	24.0	88	97	109	High		
3		0.00	1.2	23.6	91	100	108	M-high		
5		99.6	.1.2	28.8	90	99	107	High		
6	Illinois 21 (Station)	97.4	1.2	24.9	87	96	106	Medium		
7	Farmcraft FC-69	96.3	. 6	26.0	89	98	104	Medium		
8	Crow 608	94.8	. 4	25.0	91	101	102	Medium		
9	Schwenk S-66	94.8	3.0	23.3	90	99	102	M-high		
10	Crow 607(W)	92.8	. 4	24.0	91	100	101	Medium		
11		90.6	. 4	25.3	91	100	98	Medium		
12	DeKalb 628A	90.5	1.3	26.5	91	101	98	M-high		
13		89.4	1.2	28.0	88	97	97	Medium		
14		89.1	1.9	24.7	90	100	96	Medium		
15		88.7	1.4	25.4	92	101	97	Medium		
16		88.7	1.8	24.2	93	102	96	Medium		
17		86.7	3.6	24.5	92	102	91	Medium		
18		85.7	.7	25.7	91	101.	94	Medium		
19		83.4	1.3	26.8	92	101	91	Medium		
		92.8	1.3	25.5	90					

1948 RESULTS: Less than 8.6 bushels difference between total yield of any two entries is not significant.

1	Illinois 21 (Holder) 132.	5 1.2	23.8	95	99	127	M-high	10.7	5.0
2	Keystone 38 128.		24.4	96	100	121	High	10.6	4.8
3	P.A.G. 164 125.		24.8	96	100	119	M-high	10.5	5.0
4	U. S. 13 (Station) 125.		24.3	96	100	120	M-high	10.5	4.9
5	Kelly K-99 124.	8 .5	24.6	96	100	120	M-high	10.1	4.8
6	Producers 940 123.	9 2.2	22.1	96	100	118	M-high	10.8	4.9
7	Lowe 523 123.		23.1	94	98	119	M-high	10.1	4.8
8	Powers 149 122.	6 4.4	24.2	96	100	114	Medium	10.7	4.6
9	Ainsworth X-14A 121.	4 .2	25.0	93	97	117	High	11.0	5.2
10	Farmcraft FC-69 120.	6 .9	24.4	96	100	116	Medium	10.3	4.6
11	U. S. 13 (Morton) 120.		22.0	96	100	114	M-high	10.6	4.6
12	Bear OK-88T 120.		30.1	95	99	116	M-high	10.5	4.8
13	Crow 608 118.		25.8	94	98	115	M-high	10.8	4.8
14	U. S. 13 (Appl) 118.		27.4	97	101	114	M-high	10.4	4.8
15	Hulting 380 118.		26.4	94	98	114	Medium	10.9	4.6
16	Super Crost S-12 117.		22.4	96	100	112	Medium	11.1	4.9
17	Producers 900 116.		25.2	96	100	112	M-high	9.7	5.0
17	Bear OK-34 116.		26.5	95	99	112	M-low	10.9	4.9
19	Pioneer 339 115 .		21.2	93	97	112	Medium	10.9	4.9
20	Ainsworth X-201 115.	1 1.2	25.2	96	100	110	High	10.9	5.1
21	S.S. 342		30.2	97	101	110	Medium	10.3	4.7
22	Super Crost FD-6 113.		23.4	97	101	110	Medium	11.3	5.0
23	Crow 633 112.		23.6	98	102	108	Medium	11.0	5.1
23	Huey H-50 112.	8 .1	25.2	96	100	109	M-high	10.9	4.9
25	Huey H-42 112.	6 2.5	25.2	97	101	106	M-high	11.2	4.8
26	Lowe 580 112.	5 .4	28.7	96	100	109	M-high	11.4	5.4
26	Huey H-23	5 .3	25.9	95	99	109	M-high	10.9	4.7
28	Doubet D-3(W) 112.		23.6	97	101	108	Medium	10.7	4.8
29 30	Illinois 21 (Mountjoy) 111.		25.2	96 98	100 102	99 103	M-high Medium	$\frac{11.1}{11.7}$	5.0
	DeKalb 666 110.		24.7						
31	P.A.G. 392 110.		24.7	95	99	105	Medium	10.9	4.9
32	P.A.G. 170 109.		28.1	96	100	105	M-high	10.5	4.4
33	Lowe 555 109.		25.3	96	100	91	Medium	11.1	4.8
34	Illinois 1508 (Station) 109.		23.2	94	98	102	Medium	10.8	4.7
35	Illinois 21 (Station) 108.		23.9	96	100	103	Medium	11.2	5.0
36	Crow 607(W) 107.	5 .4	23.6	96	100	104	Medium	10.4	4.7
37	Funk G-211 107.		25.2	95	99	103	M-high	10.6	4.8
38	Super Crost F-170 107.		30.5	95 97	99 101	103 102	Medium	11.1	4.4
38 40	Ainsworth X-21 107.		24.3 24.6	98	101	102	M-high M-high	10.8 10.4	4.8
40	Illinois 972-1 (Appl) 106.	3 2.5	24.0	98	102	100	mgn-mgn	10.4	4.9

(Table is concluded on next page)

Table 8. — EAST NORTH-CENTRAL ILLINOIS — concluded

		Total	Damaged corn in	Mois- ture in	Erect	Ratin	g for—	Height		0.11		
Ran	k Entry	acre yield	shelled sample	grain at harvest	plants	Erect plants	Sound yield	of ear	Protein	Oil		
	1948 RESULTS — concluded											
		bu.	perct.	perct.	perct.	perct.	perct.		perct.	perci.		
40	DeKalb 642	106.3	.4	24.0	97	101	103	Medium	11.1	4.5		
42	Morton M-12	106.2	4.7	22.4	96	100	97	M-high	11.3	4.6		
43	Hulting 101		. 4	22.1	96	100	102	Medium	10.9	4.6		
44	S.S. 362		3.8	29.1	97	101	98	M-high	11.1	4.8		
45	Lowe 514	105.3	. 8	25.9	96	100	101	Medium	10.6	4.8		
46	Holmes Utility 39		1.6	28.3	96	100	100	M-high	10.2	4.7		
47	DeKalb 628A		3.1	28.0	97	101	98	M-high	10.5	4.6		
48	Frey 644A	103.8	2.5	25.6	96	100	98	M-high	10.6	5.1		
49 50	Furr 67		4.8	24.4	97	101	95	M-low	10.8	4.8		
50	Ward 112	102.7	4.5	20.2	94	98	95	M-low	10.9	4.5		
51	Trisler T-32	102 2	4.9	26.5	97	101	94	M-high	10.4	4.8		
52	National 118		2.2	24.4	96	100	96	Medium	11.2	4.9		
53	Schwenk S-66		7.9	23.2	98	102	89	M-high	10.7	5.0		
54	Pioneer 336		1.2	29.2	95	99	96	M-high	10.6	5.3		
55	U. S. 13 (Sibley)	99.8	5.4	26.2	94	98	91	M-high	10.5	4.5		
56	Ward 116	99.6	6.5	21.5	94	98	90	Medium	10.5	4.6		
57	Super Crost 668A	98.1	1.4	26.6	96	100	94	Medium	10.6	4.8		
58	Illinois 972A-1 (Station)	97.4	2.6	25.3	98	102	92	Medium	10.1	4.5		
59	National 125-1	96.6	. 4	25.0	96	100	93	Medium	11.4	5.0		
59	Doubet D-11	96.6	. 4	25.9	96	100	93	Medium	11.4	5.0		
61	Super Crost F-169	96.2	.5	23.8	98	102	93	Medium	10.9	4.8		
62	P.A.G. 270	95.8	.6	20.5	97	101	92	Medium	11.0	4.5		
62	Moews 520	95.8	1.0	26.1	96	100	92	Medium	11.0	4.5		
64	Frey 645	95.5	2.7	25.5	98	102	90	Medium	10.8	5.1		
65	Moews 550	94.2	. 2	23.9	96 -	100	91	Medium	10.8	4.9		
66	Illinois 1509 (Station)	93.4	5.7	30.6	91	95	84	M-high	10.3	4.6		
67	Illinois 1494 (Station)	93.3	1.1	20.8	96	100	89	M-low	11.2	4.8		
68	Moews 523	93.1	. 2	26.4	98	102	90	M-high	10.4	4.6		
69	Funk G-77	92.8	3.3	26.4	96	100	86	M-low	10.6	4.9		
70	DeKalb 817A	92.1	7.4	22.8	97	101	81	M-high	11.0	5.1		
71	Super Crost F-181	90.2	. 6	27.5	96	100	87	M-high	11.0	5.1		
72	Appl A-202	88.9	2.6	25.0	98	102	84	M-low	11.4	5.3		
73	Kelly K-77	88.3	1.1	24.9	95	99	84	Medium	10.6	4.6		
73	Kelly K-44	88.3	3.2	27.0	96	100	82	Medium	10.8	5.1		
75	Frey 425	87.6	1.4	28.7	95	99	84	Medium	11.2	5.1		
764 77	Trisler T-19	85.0	6.8	26.4	97	101	76	Medium	10.7	4.9		
78	Ward 114	83.6	3.1	25.9	95	99 99	78 79	Medium	11.1	4.5		
79	Moews 18 Super Crost F-150	81.2 78.3	1.7^{4}	$\frac{23.5}{25.0}$	95 95	99	79 74	Medium Medium	10.6 10.6	4.7		
80	Iowealth BC-4	76.1	.4	23.8	95 96	100	73	Medium	11.2	4.6		
81	Lowe 520	76.1	3.2	32.4	96	100	71	M-high	10.8	4.8		
01												
	Average of all entries	105.4	2.4	25.2	96				10.8	4.8		

⁴ Four plots were included in the average yield instead of five.

PROVEN HYBRIDS: Most of the following hybrids were not included in the 1948 Sheldon tests because they were top-ranking in the previous three years:

Pioneer	313B
Pioneer	304
Morton	M-380
Fray 644	

Pioneer 332 Frey 692 Pioneer 300 Keystone 38 DeKalb 847 Producers 730

Table 9. — SOUTH-CENTRAL ILLINOIS: Sullivan

	Rank	Entry	Total acre		grain at	Erect plants	Erect		Height of ear	Protein	Oil
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SUMMARY 1946-1948: Less than 4.9 bushels difference between total yields of any two entries is not significant.

		bu.	perct.	perct.	perct.	perct.	perct.		perct.	perct.
1	Producers 900	96.0	1.5	20.3	92	103	111	Medium		
2	Illinois 21 (Station)	94.4	.9	20.2	93	102	109	Medium		
3	Illinois 201 (Station)	91.7	1.3	19.9	88	97	106	M-high		
4	National 125-1	89.5	2.2	20.4	92	101	103	Medium		
5	P.A.G. 612(W)	87.6	1.4	23.4	86	94	102	High		
6	Crow 608	85.8	.9	20.6	90	99	100	Medium		
7	Keystone 38	85.6	1.5	21.0	93	102	99	M-high		
8	Crow 805	85.3	. 7	21.2	91	100	99	Medium		
9	Super Crost 746	83.8	. 4	20.9	92	101	98	Medium		
10	Ward 120A	83.6	1.5	21.6	91	100	96	High		
11	Whisnand 917(W)	81.5	1.3	24.2	88	97	94	High		
12	Super Crost 840	81.1	1.7	21.7	96	105	94	M-high		
	Average of all entries	86.4	1.3	21.4	91					

1948 RESULTS: Less than 7.3 bushels difference between total yields of any two entries is not significant.

					1				
1	Illinois 2216(W)								
_	(Station)	. 4	21.2	75	97	114	M-high	9.8	4.2
2	U. S. 13 (Stone) 117.8	. 2	19.7	75	97	111	M-high	9.6	4.8
3	Keystone 45 117.6	.4	20.8	73	95	111	High	10.4	5.4
3	Producers 900 117.6	2.4	20.2	83	108	109	Medium	10.4	5.2
5 6	Bear OK-66	1.8	$\frac{20.0}{18.4}$	79 90	103 117	109 109	Medium Medium	$9.7 \\ 9.7$	$\frac{4.6}{4.5}$
6	Lowe 514	3.0	18.9	85	110	107	Medium	10.4	4.7
6	S.S. 362	1.7	20.0	81	105	108	Medium	10.4	4.9
ğ	Illinois 201 (Station) 115.9	2.4	18.9	72	94	107	M-high	10.6	4.6
10	Bear OK-72 115.7	1.8	19.1	82	106	108	M-high	9.8	4.7
11	Lowe 640	.3	19.5	80	104	109	M-low	10.6	5.3
12	P.A.G. 173 115.3	2.8	18.9	74	96	106	M-high	9.9	4.8
13	Ainsworth X-201 114.7	2.0	18.7	79	103	106	M-high	10.2	5.0
14	Illinois 1515 (Station) 114.4	.7	19.2	78	101	108	Medium	9.4	4.8
14 14	P.A.G. 612(W) 114.4 U. S. 13 (Morton) 114.4	.3	$\frac{20.7}{18.9}$	70 77	91 100	108 108	High M-high	10.5 10.5	4.0 5.3
14	Illinois 1509 (Station) 114.4	1.0	21.3	75	97	107	M-high	9.8	4.7
18	Ainsworth X-13-3 113.7	1.0	19.5	78	101	109	Medium	9.9	4.5
19	Super Crost 707(W) 113.4	2.8	20.5	62	81	104	High	9.8	4.3
20	National 125 113.2	.6	19.9	76	99	107	Medium	10.1	5.0
21	Whisnand 917(W) 112.2	1.0	21.6	67	87	105	High	10.1	4.2
22	Appl A-130	.4	19.8	73	95	106	M-high	9.9	5.0
23	Canterbury 404 111.3	1.4	19.2	81	105	104	Medium	10.1	4.5
24 25	United U-59	2.0	$\frac{19.5}{20.4}$	76 69	99 90	103 102	Medium M-high	9.9 10.6	4.9 5.1
26	U. S. 13 (Daily) 110.2	.2	19.2	80	104	104	M-high	10.3	4.9
27	Illinois 201 (Mountjoy) 109.6	3.8	18.6	82	106	100	M-high	10.0	5.0
27	Illinois 21 (Station) 109.6	.9	18.4	83	108	103	Medium	9.8	4.8
29	Whisnand 905(W) 109.5	0	22.3	74	96	104	High	10.6	4.8
30	Crow 608 109.2	.3	19.0	71	92	103	M-low	9.9	4.7
31	U. S. 13 (Appl) 109.1	.4	19.5	80	104	103	Medium	10.3	4.8
31	Lowe 523 109.1	1.4	18.7	85	110	102	M-low	9.6	4.9
33	U. S. 13 (Kelly) 108.9	0	19.6	81 75	105 97	103	Medium M-high	9.9 9.9	4.8
34 34	U. S. 13 (Mountjoy) 108.8 Producers 730 108.8	$\frac{.4}{2.4}$	$\frac{19.2}{20.4}$	80	104	100	M-high	10.1	4.4
36	Illinois 21 (Powers) 108.7	2.7	18.6	78	101	100	Medium	10.1	4.9
37	P.A.G. 170 108.6	.8	19.2	74	96	102	Medium	9.2	4.3
38	Kelly K-44 108.2	.3.0	18.9	79	103	99	Medium	9.8	5.0
39	Wards 118 108.1	2.8	18.9	78	101	99	M-high	10.1	4.8
39	U. S. 13 (Pfeifer) 108.1	1.8	19.0	90	117	100	M-high	9.8	4.5
41	National 125-1 107.6	2.2	19.3	83	108	100	Medium	10.9	5.2
41	DeKalb 875 107.6	3.1	20.0	86	112	99	M-low Medium	11.1	4.5 5.3
43 44	Doubet D-11 106.9 U. S. 13 (Canterbury) 106.7	1.0	18.5 19.5	80 82	104 106	100 101	Medium M-high	10.9 9.9	4.6
44	U. S. 13 (Canterbury) 100.7	. 4	19.3	82	100	101	141-111g11	7.7	7.0

Table 9. - SOUTH-CENTRAL ILLINOIS - concluded

		Total	Damaged corn in	Mois- ture in	Erect	Rating	g for—	Height		
Rar	k Entry	acre yield	shelled sample	grain at harvest	plants	Erect plants	Sound yield	of ear	Protein	Oil
		bu.	perct.	perct.	perct.	perct.	perct.		perct.	perct.
45	Illinois 206 (Seeber)	106.6	1.2	19.1	68	88	100	M-high	10.1	4.7
46	Whisnand 804		0	18.4	81	105	101	Medium	10.4	4.7
47	Ponder 814		.9	20.6	73	95	100	M-high	9.4	5.0
48	Keystone 38		2.8	19.5	85	110	97	M-high	10.0	5.2
48	Ainsworth X-14A		1.1	22.4	78 77	101	99	M-high	10.4	5.6
504	Super Crost 840	105.7	1.6	19.1	. //	100	98	M-high	9.9	4.8
50	Kelly K-88	105.7	. 4	19.8	80	104	100	Medium	9.8	5.0
52	Illinois 972-1 (Pfeifer)	105.6	4.5	19.9	72	94	95	M-high	9.6	4.6
53	Trisler T-32		1.6	19.5	76	99	98	Medium	9.6	4.6
54 55	Lowe 560		.6 2.8	$\frac{18.9}{23.5}$	83 72	108 94	99 97	Medium M-high	10.1 10.9	4.8 4.5
56	U. S. 35 (Canterbury)		.8	18.7	86	112	98	Medium	10.9	4.8
56	Lowe 820		1.8	20.5	72	94	97	M-high	10.6	5.6
58	Stiegelmeier S-13		1.4	19.6	80	104	97	Medium	9.8	4.9
58	Iowealth 25		. 4	19.5	72	94	98	Medium	10.8	4.9
60	Illinois 21 (Daily)	104.1	2.2	20.2	86	112	96	Medium	9.2	4.4
61	S.S. 478		1.2	19.7	78	101	97	Medium	9.6	5.2
62	Crow 805		1.0	19.6	76	99	97	Medium	10.2	4.9
63	Pointer Brand 87		2.9	19.2	71	92	95	Medium	10.1	4.5
64	Daily DX-9		2.2	19.8	78	101	95	M-high	10.4	4.9
65 66	Powers 149		. 6 . 3	$\frac{18.3}{18.7}$	73 55	95 71	96 96	Low M-low	$9.7 \\ 10.0$	5.0 4.8
67	Appl A-136		.5	18.7	81	105	96	M-high	10.0	4.8
68	Super Crost F-169	101.7	3.5	19.5	84	109	93	Medium	9.9	5.1
69	Embro 36		2.4	18.0	77	100	94	Medium	10.5	4.8
69	Super Crost 746		.3	18.5	77	100	96	Medium	9.4	4.8
	•				0.4	40.7				
71	Trisler T-19		1.2	19.2	81	105	95	Low	9.8	5.2
72 73	DeKalb 923(W) Morton M-380		$\frac{1.0}{2.4}$	$\frac{22.7}{20.2}$	70 73	91 95	94 92	M-high Low	$\frac{10.2}{10.2}$	$\frac{4.3}{4.9}$
74	DeKalb 898	99.6 99.4	2.4	20.2	79	103	92	M-high	11.2	4.9
75	Pointer Brand 77	96.9	1.7	18.7	71	92	90	Medium	10.9	5.0
76	Super Crost FD-8	96.0	3.3	19.6	77	100	88	M-low	10.9	5.0
77	Wards 120A	94.5	2.4	19.5	81	105	87	M-high	10.4	4.9
784	Canterbury 456	94.2	. 3	20.5	66	86	89	Medium	10.0	4.4
79	S.S. 342	90.3	. 2	20.5	63	82	85	Medium	10.4	4.6
80	Lowe 520	84.7	1.6	20.4	78	101	79	M-low	10.6	4.7
81	Illinois 1459 (Station)	82.2	1.1	29.2	52	68	77	M-high	11.1	5.5
	Average of all entries	107.2	1.5	19.8	77				10.1	4.8

⁴ Four plots were included in the average yield instead of five.

PROVEN HYBRIDS: Most of the following hybrids were not included in the 1948 Sullivan tests because they were top-ranking in the previous three years:

Doubet D-41
Bear OK-40
Producers 1050
Illinois 21

Pioneer 313B Crow 607 Pioneer 332

Kelly K-374 Morton M-12 Pioneer 300

Table 10. — HYBRID RESISTANCE TO CORN ROOTWORM* DAMAGE:
Sullivan Summary, 1944 and 1948

Ranl	Entry	Plants leaning 30 degrees or more	Plants leaning more than 45 degrees	Resistance rating com- pared with average
		perct.	perct.	
1	Super Crost F-169	. 11.8	. 2	234
2	Super Crost 746	. 17.1	1.8	138
3	Crow 608	. 15.0	3.7	128
4	Illinois 21		1.8	125
5	Illinois 201	. 24.0	2.4	99
5	Crow 805	. 21.2	3.9	99
7	Crow 805. Super Crost 840	. 26.5	3.4	86
8	Super Crost 707(W)	. 31.8	2.8	76
9	Whisnand 917(W)	. 37.3	7.0	56
	Average of all entries		3.0	100

In Column 3 (plants leaning 30 degrees or more) differences are not significant.

1 .

^{*} Diabrotica duodecimpunctata (F.).

Table 11. — HYBRID RESISTANCE TO CORN ROOTWORM* DAMAGE: Sullivan, South-Central Illinois, 1948

Rank	Bntry	Plants leaning 30 degrees or more	Plants leaning more than 45 degrees	Resistance rating com- pared with average ^b	Rank	c Entry	Plants leaning 30 degrees or more	Plants leaning more than 45 degrees	Resistance rating com- pared with average ^b
		perct.	perct.				perct.	perct.	
1	Illinois 1515 (Station)	11.0	s.	287	42	Super Crost 746	. 25.2	3.3	108
7	United U-59	12.7	0.	269	43	National 125	. 23.4	4.4	107
3	Lowe 640	11.6	6.	257	44	S.S. 342	. 26.9	2.8	106
4	DeKalb 875	11.1	1.5	242	45	Pointer Brand 77	. 28.4	2.4	104
v	I owe 520	12.0		236	45	Powers 149	26.9	3.0	104
2	Illinois 1450 (Station)	12.8	2.2	200	47	Bear OK-66	28.9	2.3	102
10	Boot OK 72	7.5	10	207	48	Morton M-380	30.5	0	100
- 0	Illinois 21 (Domens)	16.1	. 0	101	40	Super Crost FD.8	25.50	7.4	00
0 0	Conterbury 456	16.1	· -	187	Ç.	P A G 173	26.6	. 4	8
, ;	Town 514	12.4	2.5	181	3.5		1 (4	2.5	90
2 -	Tarking and one (Tark)	10.0	, v	120	23	D A C 302	26.4	, r	0.0
	Willshamu 903(W)	16.1	. .	177	22	II S 12 (Volly)	21.7	2.0	26
77	Walu 123	10.3		117	2 4	Dointon Drond 1010	21.5		7.0
	Super Crost F-109	10.0		170	# T	Tiling of (Della)	27.5	0.0	1,0
	U. S. 35 (Canterbury)	17.8	٠. ١.٥	1/4	4,	Illinois 21 (Daily)	•	0.0	16
	U. S. 13 (Daily)	19.4	s.	109	20	Embro 30	6.87	8.0	80
	Trisler T-19	17.1	1.9	164	27	Trisler 1-32	. 33.5	3.2	80
17	National 125-1	18.5	1.4	161	28	Illinois 206 (Seeber)	. 30.4	5.1	82
	Super Crost 707(W)	19.6	1.1	158	29	Crow 608	. 27.4	7.3	82
	Pointer Brand 87	18.5	2.3	148	9	Funk G-99	. 33.0	4.7	81
	S.S. 362.	19.6	2.0	146	61	Keystone 45	. 35.4	4.2	79
	U. S. 13 (Pfeifer).	22.1	1.0	142	62	Ainsworth X-14A	. 29.7	7.4	17
	U. S. 13 (Canterbury)	19.8	2.3	141	63	Illinois 201 (Station)	. 35.9	4.6	20
	Ainsworth X-201	21.0	1.0	139	64	Illinois 21 (Station)	. 38.6	3.7	75
23	Ward 118	18.3	3.2	139	65	U. S. 13 (Appl).		8.8	20
200	Producers 730	22.0	-	138	99	II. S. 13 (Morton)	35.5	7.1	69
26	Kelly K-44	23.3	0	137	99	Crow 805	35.3	7.2	69
27	Daily D.Y0	21.8	0	134	99	1.0we 560	33.0	00	09
200	Ponder 814	21.2	2.3	133	9	Canterbury 404	35.4	7.7	89
200	DeKalb 808	21.5	4.0	133	20	Whisnand 804	42.0	2	99
30	Illinois 1509 (Station)	22.3	0	131	20	Super Crost 840	41.7	5.2	99
30	Illinois 2216(W) (Station)	21.3	2.4	131	20	[1] S. 13 (Stone)	40.3	5.7	99
33	DeKalb 923(W)	20.8	000	130	73	Kelly K-88	38.1		63
33	Louis 523	25.1	-	126	74	Ainsworth X-13-3	30.8	7 0	62
22	Hinois 201 (Mountion)	75.7		126	75	Stionalmaiar S-13	45.1	· ·	19
22	Illinois 201 (MountJoy)	#· C7	7.0	126	15	II C 12 (Mountion)	40.64	2.5	109
33	Illinois 972-1 (Fielier)	0.47	1.3	071	15	D. S. 13 (MountJoy)	20.7	+	8 4
000	Doublet D-11	20.0	0.0	071	1 -	Froducers you.	. 20.5	0.70	30
200	3.3.410	7.77	0.0	171	100	F.A.G. 012(W)	20.7	16.9	40
200	Appl A-130	0.07	0.1	011	00	Neystone 30	200.	10.0	46
5	Lowe 820.	73.7	4.0	115	80	Ward 120A	0.74	10.7	40
7	William 917(W)	20.0	4.0	110	10	Appl A-130	1.66 .	10.0	00
41	10Wealth 25	6.67	0.0	109		Average of all entries	. 26.7	3.8	100

In columns showing plants leaning 30 degrees or more, differences between hybrids are not significant.

Especially southern corn rootworm, Diabrotica duodecim punctata (F).
 High rating indicates better standing ability.

Table 12. — SOUTHERN ILLINOIS: Alhambra

		Total Dan	naged Mois- n in ture in	Erect	Ratin	g for—	Height
Rank	Entry	wiold she			Erect plants	Sound yield	of ear

SUMMARY 1944, 1946, 1947: Less than 6.7 bushels difference between total yields of any two entries is not significant.

_								
	,	bu.	perct.	perct.	perct.	perct.	perct.	
1	Whisnand 917(W)	52.0	.7	24.8	66	106.4	113.9	M-high
2b	Illinois 200	50.1	1.0	22.7	60	96.8	111.0	Medium
30	U. S. 13	49.7	1.3	21.4	72	116.1	109.6	Medium
4	Funk G-80	47.7	1.6	24.2	55	88.7	104.9	Medium
5	Pioneer 332	47.3	1.5	22.4	64	103.2	105.1	Medium
6	DeKalb 816	46.0	. 7	21.5	70	112.9	101.8	M-low
7	Super Crost 840	45.8	.9	21.6	45	72.6	101.1	Medium
7	Illinois 784	45.8	1.3	25.3	59	95.2	101.1	Medium
9	Crow 607	45.3	3.4	22.9	63	101.6	98.4	Medium
10^{d}		44.9	1.1	22.0	66	106.4	99.6	Medium
110	Illinois 126	44.2	1.2	21.4	57	91.9	98.0	Medium
12	Pioneer 300	43.0	. 6	20.1	65	104.8	95.7	Medium
13	Lowe 840	41.9	2.5	24.1	68	109.7	91.5	Medium
14f	Super Crost 1005A	39.3	1.3	24.6	53	85.5	86.8	Medium
15	Super Crost 746	37.3	.9	22.0	64	103.2	82.6	M-low
	Average of all entries	45.4	1.3	22.7	62.0			

1947 RESULTS: Less than 14.2 bushels difference between total yields of any two entries is not significant.

	yields of any	two	entries	is not	signin	icant.		
	Illinois 2214(W) (Station). Illinois 1459 (Station). Doubet D-41. Whisnand 905(W). S.S. 903(W). U. S. 13 (Haudrich). Keystone 106(W). Whisnand 917(W). Lowe 855(W). Ainsworth X-13-3.	71.0 65.0 64.7 63.9 62.1 61.8 61.6 59.3 57.5	4.2 1.7 3.1 1.6 1.4 4.0 2.4 1.7 2.4	26.6 28.1 26.4 25.5 24.4 22.1 26.5 24.1 23.2 22.1	44 67 66 41 54 61 67 72 62 65	79.4 120.9 119.1 74.0 97.5 110.1 120.9 130.0 111.9 117.3	143.4 134.8 132.3 132.7 129.1 125.1 126.8 123.0 118.4 116.4	Medium M-high M-high Medium M-high Medium Medium M-high Medium M-high M-high
1 1 1 1 1 1 1 1 1 1 2	1 Bear OK-50A . 2 Pointer Brand 87 . 3 Illinois 200 (Haudrich) . 4 U. S. 13 (Kelly) . 5 P.A.G. 173 . 6 DeKalb 923(W) . 7 P.A.G. 612(W) . 3 Illinois 784 (Haudrich) . 9 Pioneer 505(W) .	56.3 56.2 56.1 55.9 55.3 55.2 53.8 53.6 53.5	1.0 2.0 .9 2.4 .9 .9 1.4 1.3 1.0 3.0	21.4 22.8 23.6 23.6 20.9 26.4 26.5 28.2 27.3 21.2	67 46 48 64 47 58 52 59 61 53	120.9 83.0 86.6 115.5 84.8 104.7 93.9 106.5 110.1	117.5 116.2 117.3 115.2 115.6 115.4 111.8 111.6 111.8	M-low Medium Medium Medium Medium Medium M-high Medium M-high
2 2 2 2 2 2 2 2 2 2 2 2 3	2 U.S. 13 (Canterbury). 3 Pioneer 302. 4 Whisnand 804. 5 Ward 120A. 6 Ainsworth X-14A. 7 P.A.G. 617(W). P.A.G. 392. 9 Keystone 38.	52.4 52.3 52.2 51.8 51.7 51.4 51.3 50.8 50.7	1.7 2.6 .9 3.4 2.9 3.0 1.0 1.4 1.4	23.7 22.1 28.5 19.2 23.7 25.1 25.9 19.7 22.2 19.6	60 46 50 47 48 74 65 71 46 37	108.3 83.0 90.2 84.8 86.6 133.6 117.3 128.2 83.0 66.8	108.6 107.4 109.1 105.4 105.9 105.1 107.2 105.7 105.5 105.1	M-low M-high Medium M-low Medium M-high M-high Medium Medium Medium
3 3 3 3 3 3 4	2 Bear OK-315(W) 3 Doubet D-42 3 Ward 125 5 Super Crost 708(W) 6 Illinois 21 (Haudrich) 7 Keystone 45. 9 Illinois 972 (Pfeifer)	50.4 50.3 50.0 50.0 49.9 49.6 49.3 49.1 49.0	2.0 .9 1.6 1.8 3.4 2.2 1.3 4.2 1.3	30.7 23.5 20.9 22.4 24.7 21.0 24.9 22.0 24.3 23.8	61 42 65 50 46 66 62 50 40 49	110.1 75.8 117.3 90.2 83.0 119.1 111.9 90.2 72.2 88.4	104.2 103.8 103.8 103.6 101.7 102.3 102.5 101.3 98.9 102.0	Medium Medium Medium Medium M-high Medium Medium Medium Medium Medium

(Table is concluded on next page)

Table 12. - SOUTHERN ILLINOIS: Alhambra - concluded

		Total	Damaged corn in	Mois- ture in	Erect -	Rating	g for—	Usiaht
Rar	nk Entry	acre yield	shelled sample	grain at harvest	plants	Erect plants	Sound yield	Height of ear
	1947 F	RESU	LTS—	conclud	led			
		bu.	perct.	perct.	perct.	perct.	perct.	
41	Bear OK-69	48.6	2.3	23.2	69	124.5	100.2	Medium
42	Illinois 2216(W) (Station)	48.4	2.1	25.1	55	99.3	100.0	Medium
43	Funk G-80	48.2	3.8	25.6	66	119.1	97.9	Medium
44 45	Kelly K-100	$\frac{48.0}{47.9}$	1.2	20.1 22.0	46 50	83.0 90.2	100.0 100.2	Medium Medium
45	Pioneer 300	47.9	1.3	22.0	54	97.5	99.8	Medium
47	Kelly K-374.	47.7	1.8	20.5	50	90.2	98.7	Medium
48	Pioneer 332	47.1	2.0	23.2	34	61.4	97.5	Medium
48	Lowe 820	47.1	3.2	26.5	62	111.9	96.2	Medium
50	United U-68	47.0	1.1	23.4	65	117.3	98.1	Medium
51	Embro 36	46.9	2.6	20.6	62	111.9	96.4	Medium
52	United U-49	46.8	2.6	23.0	48	86.6	96.2	Medium
52	Illinois 126 (Canterbury)	46.8	2.7	22.9	32	57.8	96.0	Medium
52	Super Crost FD-8	46.8	3.7	19.9	51	92.1	95.2	M-low
55	Daily DX-9	$\frac{46.6}{46.5}$	3.3 1.8	$\frac{22.4}{23.9}$	57	102.9 120.9	95.2 96.4	Medium Medium
56 57	Appl A-130 Super Crost 1010	46.3	2.2	27.1	67 64	115.5	95.4	Medium
58	DeKalb 898.	46.2	.9	22.7	62	111.9	96.6	Medium
59	Illinois 126 (Haudrich)	45.7	.6	21.6	46	83.0	95.6	Medium
60	DeKalb 816	45.5	1.6	22.5	52	93.9	94.5	M-low
61	Lowe 830	45.3	2.0	27.4	36	65.0	93.7	Medium
62	Whisnand 834	44.6	5.7	25.9	44	79.4	88.6	Medium
63	P.A.G. 164	44.2	2.7	21.5	73	131.8	90.7	. Medium
64	Morgan M-546	42.8	2.5	21.2	59	106.5	88.0	M-low
65	Lowe 523	42.7	2.1	22.3	44	79.4	88.2	Medium
66 67	U. S. 13 (Morgan)	40.8	2.2 6.2	$\frac{23.6}{27.5}$	71	128.2 97.5	84.2 80.0	Medium Medium
68	Lowe 840	$\frac{40.4}{39.8}$.6	20.6	54 42	75.8	83.5	M-low
69	Embro 49.	39.6	3.2	23.8	49	88.4	80.8	Medium
70	Super Crost 840	39.5	1.9	24.0	67	120.9	81.6	M-low
71	Crow 607	38.5	4.9	25.6	46	83.0	77.2	Medium
72	S.S. 478	38.4	3.8	24.1	49	88.4	77.8	Medium
73	National 129	37.7	. 6	20.6	48	86.6	79.1	M-low
74	Farmcraft FC-88	36.1	12.1	24.6	43	77.6	66.9	Medium
75	Super Crost 746	35.8	1.4	21.7	56	101.1	74.5	M-low
76	Pioneer 510(W)	35.2	2.6	24.7	66	119.1	72.4	Medium
76	Super Crost 1005A	35.2	3.0	26.0	62	111.9	71.9	Medium Medium
78 79	Funk G-90	35.0 33.2	$\frac{3.1}{3.3}$	26.8 21.2	71 66	$\frac{128.2}{119.1}$	71.5 67.7	Medium
80	Brown K110(W)	30.9	1.8	27.4	74	133.6	63.9	M-high
81	National 125	27.1	13.8	23.0	43	77.6	49.4	Medium
	Average of all entries	48.5	2.5	23.7	55.3			
_		1310						

^{* 1945} data omitted because the crop did not mature. b 1947 yield was average of Illinois 200 produced by Burrus and Haudrich. ° 1947 yield was average of U. S. 13 produced by Canterbury, Haudrich, Kelly, and Morgan. d Averaged with Pioneer 313D, which appeared in 1944 tests. ° 1947 yield was average of Illinois 126 produced by Canterbury and Haudrich. I Averaged with Super Crost 1005, which appeared in 1944 tests.

Because corn on the Alhambra field was a failure in 1948, the results published a year ago are repeated here. The first planting in 1948 was destroyed by the black cutworm, Agrotis ypsilon (Ropt.). The June planting was followed by a month of rainy weather from which the corn never recovered. The poor drainage characteristics of this field contributed to the crop failure.

Table 13. — EXTREME SOUTHERN ILLINOIS: Dixon Springs Bottomland and Upland

Rank	Entry	wield S	amaged Morn in tu helled grample ha	Mois- ire in Erect ain at plants	Erect	g for— Sound yield	Height of ear	Protein	Oil
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SUMMARY, Bottomland, 1946-1948: Less than 5.8 bushels difference between total yields of any two entries is not significant.

		bu.	perct.	perct.	perct.	perct.	perct.		perct.	perct.
1	Whisnand 917(W)	68.4	.6	23.1	92	101	119	Medium		
2	Lowe 855(W)	64.1	2.1	23.4	90	99	110	Medium		
3	P.A.G. 612(W)	62.9	.6	26.6	92	101	109	Medium		
4	Whisnand 905(W)	62.2	1.0	24.9	91	100	108	Medium		
5a	U. S. 13	57.8	1.4	21.9	94	103	99	Medium		
6	Lowe 840	57.6	. 4	22.1	91	100	100	Medium		
7	Whisnand 834	56.0	.8	24.6	87	96	97	M-low		
8	Illinois 784 (Station)	53.9	1.3	27.4	81	89	93	M-high		
9	Ward 120A	52.3	1.7	21.2	93	102	90	Medium		
10	National 129	51.4	2.1	27.8	92	101	88	M-low		
11	Super Crost 1010	51.2	1.0	24.4	94	103	89	M-high		
	Average of all entries	58.0	1.2	24.3	91					

1948 RESULTS, Bottomland: Less than 8.2 bushels difference between total yields of any two entries is not significant.

	between to	, cu: y:	cius oi	uny cv	VO 0110	1100 10	1100	.6	•	
1	Lowe 865	78.3	.4	21.1	99	101	121	M-low	8.4	4.2
2	Lowe 855(W)	75.4	. 1	23.5	98	100	116	M-low	8.1	4.4
3	Bear OK-110	73.8	.4	27.0	98	100	114	Medium	8.2	5.1
4	DeKalb 982(W)	73.7	. 3	21.8	100	102	114	Medium	8.2	4.6
5	Ainsworth X-13-3	72.1	1.2	20.8	99	101	110	M-low	8.8	4.2
6	Illinois 1459 (Station)	71.1	0	26.2	97	99	110	M-high	9.4	4.9
7	Pioneer 313B	70.4	1.0	22.8	99	101	108	M-low	7.8	5.1
	(Station)	70.3	. 4	22.7	98	100	108	Medium	9.1	4.6
9	Whisnand 917(W)	70.2	. 4	23.5	97	99	108	M-high	8.4	4.4
10	P.A.G. 173	70.0	.8	19.6	99	101	107	M-low	8.0	4.5
11	Iowealth TX-1	69.8	0	30.1	96	98	108	M-high	8.8	5.6
12	Bear OK-90	69.3	. 2	24.6	100	102	107	M-low	9.6	5.0
13	Ward 135(W)	69.2	0	29.6	98	100	107	M-high	8.8	4.9
14	Illinois 200 (Station)	68.8	.4	26.4	96	98	106	Medium	8.8	5.3
15	Illinois 1521 (Station)	68.3	0_	30.1	96	98	106	High	10.1	5.2
15	Illinois 784 (Haudrich)	68.3	.9	24.7	99	101	105	Medium	9.4	4.8
17	Illinois 200 (Haudrich)	68.2	2.4	24.2	99	101	103	M-low	9.4	4.8
18	Ainsworth X-14A	67.8	2.4	26.2	98	100	102	Medium	8.6	5.2
19	Keystone 38	67.7	. 1	19.9	98	100	104	M-low	9.0	4.3
20	Pioneer 332	67.6	. 2	23.6	98	100	104	Medium	7.6	4.1
20	P.A.G. 617(W)	67.6	. 2	26.2	- 98	100	104	M-high	9.6	4.4
22 23	Funk G-145 Illinois 2216(W)	67.4	. 2	29.6	93	95	104	Medium	9.2	5.7
	(Station)	67.3	. 7	27.6	98	100	103	Medium	7.9	4.4
24	Pfeifer A-243	67.2	.9	28.6	99	101	103	M-high	7.6	5.1
25	S.S. 903(W)	66.8	0	24.9	96	98	103	Medium	9.6	4.1
25	Doubet D-41	66.8	. 2	24.3	100	102	103	M-low	8.6	4.8
27	P.A.G. 620(W)	66.6	0	27.3	95	97	103	M-high	8.2	4.1
27	Pioneer 300	66.6	. 2	24.2	97	99	103	M-low	8.5	4.2
27	Iowealth 25	66.6	. 2	22.3	96	98	103	M-low	9.2	4.6
27	Pioneer 505(W)	66.6	.8	25.3	98	100	102	Medium	9.8	4.1
31	Pioneer 304	66.5	. 2	25.5	100	102	103	Low	8.8	5.2
32	Bear OK-40B	66.4	1.9	25.0	98	100	101	M-low	8.3	5.1
33	Illinois 126 (Haudrich)	66.3	. 4	22.0	99	101	102	Low	9.2	4.1
34	Funk G-711	66.2	3.8	35.7	99	101	98	High	8.2	5.6
35	DeKalb 923(W)	65.8	. 1	26.7	98	100	102	M-low	8.6	4.2
36	Pioneer 302	65.1	.3	27.7	100	102	100	M-low	9.1	5.0
37	Embro 155(W)	65.0	. 7	23.2	98	100	100	Medium	9.5	4.3
38	Super Crost 708(W)	64.7	. 1	29.0	100	102	100	M-high	8.4	3.7
39	U. S. 13 (Haudrich)	63.8	. 7	21.3	100	102	98	M-low	8.0	4.6

(Table is concluded on next page)

Table 13. — EXTREME SOUTHERN ILLINOIS — concluded

Ran	k Entry	Total acre yield	Damaged corn in shelled sample	Mois- ture in grain at harvest	Erect plants		Sound yield	Height of ear	Protein	Oil
-	1948	RE	SULTS	: Bott	tomlar	nd — c	onclud	led		
		bu.	perci.	perct.	perct.	perct.	perct.		perct.	perct.
39	Lowe 820	63.8	1.6	23.5	99	101	97	M-low	8.9	4.9
41	Lowe 830	63.2	.4	21.0	96	98	97	Low	7.9	4.9
41	DeKalb 875	63.2	1.1	26.5	99	101	97	M-low	9.8	4.6
43	Ward 130	63.0	.1	30.8	93	95	97	High	10.4	5.2
44	National 129	62.9	1.8	23.1	100	102	96	Low	7.8	4.8
45	P.A.G. 612(W)	62.8	.5	31.7	98	100	97	M-high	10.2	4.0
46	Doubet D-11	62.4	2.9	21.0	100	102	94	Low	9.8	4.9
47	Whisnand 905(W)	62.2	. 6	28.3	95	97	96	M-high	8.6	4.8
48	Super Crost FD-8	61.6	. 1	20.5	100	102	95	Low	8,9	4.8
49	Whisnand 834	60.8	0	24.4	95	97	94	M-low	8.8	4.5
50	S.S. 901(W)	60.6	.6	24.8	99	101	93	Medium	10.2	4.0
51	DeKalb 816	60.5	2.3	25.2	100	102	91	Low	8.4	4.6
52	Super Crost 1010	60.0	. 2	27.4	98	100	93	High	9.4	4.9
53	Embro 49	59.5	. 1	26.4	96	98	92	Medium	9.2	4.4
54	Lowe 840	59.0	. 1	25.3	99	101	91	High	10.1	5.2
55	Super Crost 1005B	56.2	1.0	27.7	99	101	86	M-high	8.9	5.6
56	Brown K-110(W)	56.0	. 4	23.7	95	97	86	M-high	9.5	5.2
57	DeKalb 898	54.0	. 4	23.5	100	102	83	Medium	9.8	4.5
58	Ward 120A	53.0	3.6	20.6	98	100	79	M-low	9.5	4.5
59	Ward 125	51.5	. 1	24.6	95	97	79	M-low	8.2	4.2
60	Illinois 784 (Station)	45.0	. 2	33.8	81	83	69	M-high	9.9	5.8
	Average of all entries	65.2	. 7	25.3	98				8.9	4.7

1948 RESULTS, Upland: Less than 11.8 bushels difference between total yields of any two entries is not significant.

1	Illinois 2216(W)									
_	(Station)	54.6	2.0	24.6	97	107	108	M-high	9.2	4.4
2	Lowe 855(W)	53.4	. 4	19.9	91	107	101	Medium	10.2	4.3
3	Whisnand 905(W)	53.1	8.2	19.2	92	98	102	Medium	10.0	4.3
4	Keystone 106(W)	52.7	. 4	22.6	89	105	99	Medium	9.9	4.3
5	Funk G-711	51.4	0	28.2	84	103	93	Medium	10.3	5.0
6	Super Crost FD-8	50.2	. 7	18.3	86	100	96	Medium	10.1	4.8
7	DeKalb 982(W)	49.8	. 2	26.6	85	100	94	Medium	10.1	4.5
7	Illinois 2214(W)									
	(Station)	49.8	. 7	26.7	90	99	100	M-high	9.8	4.4
9	P.A.G. 612(W)	49.0	. 5	18.5	90	98	100	M-high	11.2	3.8
10	Ward 135(W)	47.5	7.3	30.0	90	88	100	M-high	10.2	5.1
11	Illinois 1459 (Station)	46.6	. 4	30.3	92	93	102	Medium	11.2	5.0
	Average of all entries	50.7	2.9	24.1	90				10.2	4.5

 $^{^{\}rm a}$ Average of U. S. 13 (Pfeifer) 1946, 1947, and U. S. 13 (Haudrich) 1948.

SOIL ADAPTATION TEST

For the past three years the same six single-cross and same three double-cross hybrids have been tested at Urbana for their adaptation to soils differing in fertility level. The three-year average and the 1948 yields are given in Table 14.

Soils. The two areas used for the tests are on the Agronomy south farm and differ in productivity as a result of long-continued use of different cropping systems. In the Southwest rotation a high state of productivity has been maintained by a systematic rotation of corn, oats, clover hay, and wheat with a red-clover catch crop. The South-Central area has been depleted of fertility by a rotation of corn, corn, and soybeans. Both fields have received manure and phosphate. The predominating soil type on both fields is Sidell silt loam.

Season. The 1948 growing season at Urbana was very favorable. Planting and harvesting were carried out at the normal times. With the exception of 3 weeks following planting, rainfall was well divided and temperatures were neither excessively high nor low. The 1948 season, like the 1946 one, was very favorable. The 1947 season was not favorable for maximum production.

1948 results. The average yield of all nine hybrids in the 1948 test at Urbana was higher than that for any previous year. The same hybrids, Illinois 972-1 and Hy \times O7, that demonstrated their ability in 1947 to yield well under adverse conditions showed their ability to give exceedingly high yields under favorable conditions in 1948.

Early-maturing hybrids were the lower yielding ones on both soil levels.

Three-year averages. The rank of the hybrids in the three-year summary does not differ from their rank in each of the three years. Illinois 972-1 and the single crosses which include the inbreds of which it is composed stand at the top in performance on both levels of fertility. It seems significant that the single-cross Hy \times O7 has had a better performance record over the three-year period on both soil levels than any of the other hybrids tested.

Table 14. — SOIL ADAPTATION TEST: Central Illinois, Urbana

		Total	Erect	Rating for-	
lank	Entry	acre yield	plants	Erect plants	Tota yield
	Highly productive soil '46-'48: Less that	n 3.0 b	ushels di	fference	
	between total yields of any two entri				
		bu.	perct.	perct.	perci
1	Hy × O7	123.2	92	108	110
2	Hy × O7 Hy × L317	120.8	79	93	108
3	Illinois 972-1	120.6	86	101	108
4	Illinois 246	116.7	76	89	104
5	WF9 × Hy	114.4	92	108	102
0	WF9 × 38-11	$112.1 \\ 104.7$	91 78	107 92	100 93
8	Illinois 751	104.7	85	100	93
9	5120 × Hy.	92.5	84	99	82
	Average	112.1	85		
	Medium productive soil ^b '46-'48: Less th				
	between total yields of any two entri				
1	Hy × 07	71.3	93	107	115
2	WF9 × Hy	65.4	96	110	105
3	Illinois 972-1	64.8	84	96	104
4	$Hy \times L317$	64.4	82	94	104
5	Illinois 246	64.2	77	88	104
6	WF9 × M-14	60.5	89	102	98 95
6	Illinois 751	59.1 57.8	87 88	100 101	93
8	WF9 × 38-11	50.1	87	100	81
9	Average	62.0	87		
	Highly productive soil 1948: Less than				
	between total yields of any two entr	ies is ne	ot signifi	cant.	
1	Illinois 972-1	146.7	91	99	106
2	Hy × L317	145.8	94	102	106
3	WF9 × 38-11	145.5	95	103	106
4	Hy X 07	144.5	93	101	105
5 6	WF9 × Hy	142.5 141.5	97 87	105 95	104 103
7	Illinois 246	128.4	87	95	93
8	WF9 × M-14.	127.6	97	105	93
9	5120 × Hy	117.2	88	96	85
	Average	137.7	92		
	Medium productive soil ^b 1948: Less tha				
	between total yields of any two entr	ies is no	t signific	cant.	
1	Illinois 972-1	84.2	90	99	109
2	WF9 × Hy	83.3	97	107	108
3	Hy × 07. Hy × L317.	82.2	92	101	106
4	Hy X L517	79.9	87	96 93	104
5	Illinois 246	$\frac{79.4}{77.2}$	85 95	104	103 100
7	WF9 × M-14 WF9 × 38-11	74.0	93 91	100	96
8	Illinois 751.	72.2	90	99	94
.,	5120 × Hy	62.6	93	102	81
9					
9	Average	77.2	91		

^{*}Highly productive soil: mostly Sidell silt loam, slightly rolling phase; 1946-1948 (Southwest rotation); 1948 (S100, Southwest rotation). b Medium productive soil: mostly Sidell silt loam, slightly rolling phase; 1946-1948 (South-Central rotation); 1948 (S700, South-Central rotation).

SUMMARY

In 1948 two hundred eighty-nine hybrids were grown on five fields in Illinois. Planting dates ranged from May 14 to May 26. Good stands were obtained, except on the upland field at Dixon Springs and the Sheldon field. The growing season was excellent for corn.

Results of the 1948 hybrid corn tests were briefly as follows:

1948 yields. The Galesburg field in west north-central Illinois had the highest average yield, 111 bushels an acre. The average yields per acre on the other test fields were: Sullivan, 107 bushels; Sheldon, 105 bushels; DeKalb, 68 bushels; Dixon Springs bottomland, 65 bushels; and Dixon Springs upland, 51 bushels.

The average yield for all hybrids was 92 bushels an acre. This is 31 bushels, or over 50 percent more, than the record 1948 state average of 61 bushels.

Three-year summaries, 1946-1948. The highest-yielding hybrids in the three-year summaries are as follows: Northern Illinois — Crow 407, Illinois 751, Sieben S-340, Ferris F-11, Super Crost F-138; West North-Central — Pioneer 336, Schwenk S-24, P.A.G. 170, Ainsworth X-21, U.S. 13; East North-Central — Keystone 38, Bear OK 88T, U.S. 13, Producers 940, Ainsworth X-14-A; South-Central — Producers 900, Illinois 21, Illinois 201, National 125-1, P.A.G. 612(W); Southern — Whisnand 917(W), Illinois 200, U.S. 13, Funk G-80, Pioneer 332, DeKalb 816, Super Crost 840, Illinois 784, Crow 607, Pioneer 313B; Extreme Southern — Whisnand 917(W). Lowe 855(W), P.A.G. 612(W), Whisnand 905(W), and U.S. 13.

Proven hybrids, 1945-1947. The five highest-yielding proven hybrids for the northern, west north-central, east north-central, and south-central fields are: Northern — Furr 67A, Sieben S-450, Doubet D-1, Nichols 5A, DeKalb 609; West North-Central — Pioneer 339, Pioneer 304, Doubet D-72, Kelly K-374, Holmes Utility 39; East North-Central — Pioneer 313B, Pioneer 304, Morton M-380, Frey 644, Pioneer 332; South-Central — Doubet D-41, Bear OK-40, Producers 1050, Pioneer 313B, and Crow 607.

Lodging. Lodging was of importance on only two fields: Galesburg, where it was 29 percent, and Sullivan, where it was 23 percent. The southern corn rootworm and high winds were mainly responsible. Other fields were outstanding in the uniform erectness of all varieties.

Corn borer injury. In 1948 there was little or no injury on the test fields resulting from European corn borer.

Protein and oil contents. For the first time a sample of each entry from each field was analyzed for protein and for oil. The average protein content for all entries was 10.2 percent, and the average oil content was 4.8 percent. Correlations were run between total yield and protein content, and total yield and oil content on three fields: Sheldon, Sullivan, and Galesburg. Neither the protein nor the oil showed a correlation or mutual relationship to yield.

Rots, smut, and blight. Cornstalk rots were very prevalent during the fall and caused lodging and immaturity in some fields, but in general damage was light. Root rots, smut, and leaf blights were of little importance. Ear rots were most severe on northern Illinois fields that were frosted while the ears were immature.

Effect of soil-productivity level. For the third year six single crosses and three double crosses were tested at Urbana on two fields differing in productivity. The yield of the lowest-yielding hybrid on the medium-productive soil was 62.6 bushels an acre. The yield of the highest-yielding hybrid on the highly-productive soil was 146.7 bushels an acre, representing a gain of 134 percent.

Illinois 972-1 was the highest-yielding hybrid on both levels of productivity. Single crosses made from inbreds involved in the parentage of Illinois 972-1 also yielded high.

The single-cross Hy \times O7 was highest in yield on both soil levels, as an average of three years. Only on the poorer soils was the yield of this hybrid significantly above that of the double-cross Illinois 972-1. The range in yield, as an average of the three years with the same nine hybrids on the two soil levels, was from 50.0 bushels an acre to 123.2 bushels, this high yield being almost $2\frac{1}{2}$ times the low yield.

The three-year average yield of all hybrids on the medium-productive soil was 63 bushels; on the more-productive soil it was 112.1 bushels.

PEDIGREES OF HYBRIDS

Following is a list of open-pedigree hybrids whose performance is shown in this bulletin.

Ill. 21(WF9 \times 38-11)(Hy \times 187-2)	III. $1453(K4 \times 38-11)(T8 \times CI.21E)$
III. $101(WF9 \times M14)(W26 \times 187-2)$	III. $1459(K4 \times 38-11)(CI.21E \times K201C)$
III. 200(WF9 \times 38-11)(K4 \times L317)	III. 1494 (WF9×Oh51A)(W22×Oh28)
III. 201 (WF9 $\times 38-11$) (187-2 $\times L317$)	III. 1508 $(L7 \times L17)(L12 \times Oh28)$
III. $751(A \times 90)(WF9 \times Hy)$	Ill. 1509 (P8 \times L304A)(WF9 \times Hy2)
III. $784(Hy \times 5120)(K4 \times L317)$	III. 1511(WF9 \times Hy2)(38-11 \times L304A)
III. $972A-1(O7\times WF9)(L317\times Hy)$	III. 1515 (WF9 \times 38-11)(B10 \times Hy)
III. 1091A. $.(WF9 \times M14)(Hy \times 187-2)$	III. 1521(T8 \times CI.21E)(38-11 \times K201C)
III. 1289 (WF9 \times I.205)(M14 \times W22)	III. $2214(W)$ $(H21 \times K64)(Ky27 \times R30)$
Ill. 1375(N6 \times Oh51A)(WF9 \times M14)	Ill. $2216(W)$ $(H21 \times CI.61)(Ky27 \times K64)$
Ill. 1416 $(N6\times07)(WF9\timesHy2)$	U. S. 13 \dots (Hy×L317)(WF9×38-11)

CONTRIBUTORS OF SEED

Ainsworth Hybrids	. Ainsworth Seed Co	. Mason City
	. Appl's Hybrid Seed Co	
Bear Hybrids	.Bear Hybrid Corn Co	Decatur, Box 628
Brown Hybrid	Theo. D. Brown	Coulterville
Canterbury Hybrids	.C. E. Canterbury Seed Co	Cantrall
Crow	.Crow's Hybrid Corn Co	Milford
Daily Hybride	Daily's Hybrid Corn Co	Mattagn
	DeKalb Agricultural Assn	
Embro Harbrido	.E. W. Doubet	1020 C 441 C4
Embro riybrids	.Ed. F. Mangelsdori & Bro., Inc	. 1020 S. 4th St.,
T	F (1.6. 1.6.	St. Louis, Mo.
Farmcraft Hybrids	.Farmcraft Seed Co	.Oxford, Ind.
Ferris Hybrids	.Ferris Hybrids	. Princeton
Frey Hybrids	.Frey Hybrid Corn Co	.Gilman
Funk Hybrids	.Funk Brothers Seed Co	. Bloomington
Furr Hybrids	.Furr Hybrids	, Genoa
Holmes Hybrids	. Holmes Hybrids	. Edelstein
Huebsch Hybrids	.L. A. Huebsch & Son	. Mundelein
Huey Hybrids	.Huey Seed Co	. Carthage
Hulting Hybrids	.G. E. Hulting & Son	. Geneseo
Illinois Hybrids	. Ill. 21 (Daily's Hybrid Corn Co.; Haudrid	ch Hybrid Corn Co.,
·	Belleville; George Holder, Bloomington	Box 801; Ill. Agr.
	Exp. Sta.; Mountjoy Hybrid Seed C	Co., Atlanta: Harlin
	Powers, Brocton)	,
	Ill. 101 (Ill. Agr. Exp. Sta.)	
	Ill. 126 (Haudrich Hybrid Corn Co., Belle	ville)
	Ill. 200 (Haudrich Hybrid Corn Co., Bell	
	Sta.)	erme, m. 13. Enp.
	Ill. 201 (Ill. Agr. Exp. Sta.; Mountjoy	Hybrid Seed Co
	Atlanta)	Trybrid beed Co.,
	Ill. 206 (Seeber Bros. Seed Co., Champaig	(7)
	Ill. 751 (Ill. Agr. Exp. Sta.)	11)
	Ill. 784 (Haudrich Hybrid Corn Co., Bell	ovilla III Crop Im
	provement Assn., Urbana)	evine, in. Crop ini-
		I Df-if-n Amasla
	Ill. 972-1 (Appl Hybrid Seed Co.; Geo.	L. Fieller, Arçola;
	Robt. C. Pringle, Sparland)	-)
	Ill. 972A-1, 1091A, 1289 (Ill. Agr. Exp. St	a.)
	Ill. 1332 (O. P. Tiemann, Bloomington)	1511 1515 1501
	Ill. 1375, 1416, 1459, 1494, 1508, 1509	, 1511, 1515, 1521,
	2214(W), 2216(W) (Ill. Agr. Exp. Sta.)	

^a Seed supplied by the Association was obtained from samples of 1947-grown hybrids submitted for the laboratory test for certification.

Iowealth Hybrids	. Iowealth Hybrid Corn Co	. Normal
Keny Hybrids	Camali Saad Co	. San Jose
Keystone	. Corneli Seed Co	
		St. Louis, Mo.
Lowe Hybrids	.Lowe Seed Co	. Aroma Park
Moews Hybrids	. Moews Seed Co	. Granville
Morton Hybrids	. Roy A. Morton & Sons	. Bowen
Munson Hybrids	.Carl Munson	. Galesburg
National Hybrids	. National Hybrid Corn Co	. Normal
Nichols Hybrids	. Nichols Brothers	. Hebron
P. A. G. Hybrids	. Pfister Assoc. Growers	El Paso
Pioneer Hybrids	. Pioneer Hi-Bred Corn Co. of Ill	Princeton
Pointer Brand Hybrids	. Moore's Seed & Farm Service	Humboldt
Ponder	Ponder Seed Co	Hammond
	.Harlin Powers	
	.Pride Hybrid Co	
	Producers' Crop Imp. Assn	
Schwenk Hybrids	. W. T. Schwenk & Sons	. Edwards
Seeder Hydrids	Seeber Bros	. Champaign
Sieden Hybrids	.Sieben Hybrids	. Geneseo, R. I
S. S. Hybrids	.Coop. Seed & Farm Supply Service, Inc	Muncie
Stewart Hybrid	.Frank S. Stewart	. Princeville, R. 1
Stiegelmeier Hybrids	.H. L. Stiegelmeier	. Normal
Super Crost Hybrids	.E. J. Funk & Sons. .J. L. Trisler	. Kentland, Ind.
Trisler Hybrids	. J. L. Trisler	.Fairmount
United Hybrids	. United Hybrid Growers Assn	Shenandoah, Ia.
U. S. Hybrids	. United Hybrid Growers Assn	anterbury Seed Co.,
•	Daily's Hybrid Corn Co., Haudrich H	vbrid Corn Co., Ill.
	Crop Improvement Assn., a Kelly Seed	
	Quincy, Roy A. Morton & Sons, Mountj	ov Hybrid Seed Co
	Geo. L. Pfeifer, Arcola, Sibley Farms So	ervice Corn Sibley
	P. A. Stone & Son, Pleasant Plains)	si vice corp., cibicy,
	U. S. 35 (C. E. Canterbury Seed Co.)	
Ward Hybride	. Montgomery Ward & Co	610 W. Chicago
ward Hybrids	. Montgomery ward & Co	Ave., Chicago
Whispand Hybrida	Myrran Whianand	Areala
willishand frydfids	. Myron Whisnand	Arcoia

^a Seed supplied by the Association was obtained from samples of 1947-grown hybrids submitted for the laboratory test for certification.

INDEX TO ENTRIES

When a hybrid appears in the summary portion of a table, the table number in this index is printed in heavy black type. At Dixon Springs the bottomland field is indicated in this index as 13(B), the upland field as 13(U).

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Schwenk S-66	WF9 x Hy
Sieben S-340	WF9 x M-14
Sieben S-440E	5120 x Hy14





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